

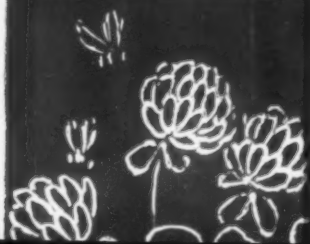
AMERICAN BEE JOURNAL

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A REAL HONEY BABY



April
1942



THOUSANDS OF USERS Endorse **STANDARD** Equipment



BEE SMOKERS

High quality, dependable Bee Smokers give greatest satisfaction. Bellows of heavy sheepskin leather securely bound and fastened. Carefully shaped lid discharges smoke in proper direction. Heavy brackets and hinges and careful fitting gives you a smoker you will certainly like to use.

ASK YOUR DEALER

... for Standard equipment. We specialize in making beekeepers' equipment. You save by asking for the STANDARD items.

THE STANDARD LINE INCLUDES:

Honey Extractors—Bee Smokers—Uncapping Knives—Hive Tools—Bee Escapes—Storage Tanks—Imbedders and other items.

THE STANDARD CHURN CO.

WAPAKONETA, OHIO

For 69 years making honest goods and giving fair, square treatment.



RED STICK APIARIES & CO.

• Packages-Queens

20 YEARS COMMERCIAL QUEEN BREEDERS
OLDEST COMBLESS PACKAGE BEE SHIPPERS IN
LOUISIANA

Daughters of Stock Bred for Resistance

Italian Bees and Queens

Prices on Packages with Queens

Lots of	Queens	2-Lb. Pkgs.	3-Lb. Pkgs.
1- 24	\$.75	\$2.50	\$3.20
25- 99	.70	2.35	3.00
100-499	.65	2.20	2.80

ONE QUALITY—THE BEST.
ONE PRICE—FAIRNESS.
NO SECONDS—HONESTY.

Buy package bees and queens bred from the A. F. B. free Louisiana State.

Buy Louisiana Italian Package Bees and Queens for larger honey and wax production.

MARKET PRICES LARGE APIARIES
RESPONSIBILITY

RED STICK APIARIES & CO.

P. O. BELLE ALLIANCE, LOUISIANA

WESTERN UNION: DONALDSONVILLE, LA.



Not Affected by Hot Weather NON-SAGGING NON-STRETCHING

Stretched cells reduce the broad area of combs.

Drones eat up your profits.

Stop this loss. For efficient, profitable combs use THREE-PLY.

THE A. I. ROOT CO. OF IOWA

COUNCIL BLUFFS, IOWA

Honey in Defense ... make it COMB Honey

1942 is the year of opportunity for Beekeepers—Sugar rationing has created an exceptional demand for HONEY—HONEY is scarce, especially COMB HONEY. Produce all you can—but, the first essential toward this goal is the right equipment.

SECTIONS—LOTZ SECTIONS fill the bill—They'll save you valuable time because they will not break when being folded—Less breakage means lower cost.

Finally, your COMB HONEY will have a greater sales appeal because of the smooth, clean appearance of the SECTION surrounding it.

Write for 1942 catalog giving full details

August Lotz Company
Boyd, Wisconsin



Plum—Paul Hadley, Arkansas.

Editors: G. H. Cale, Frank C. Pellett, M. G. Dadant, J. C. Dadant

April, 1942

Volume LXXXII

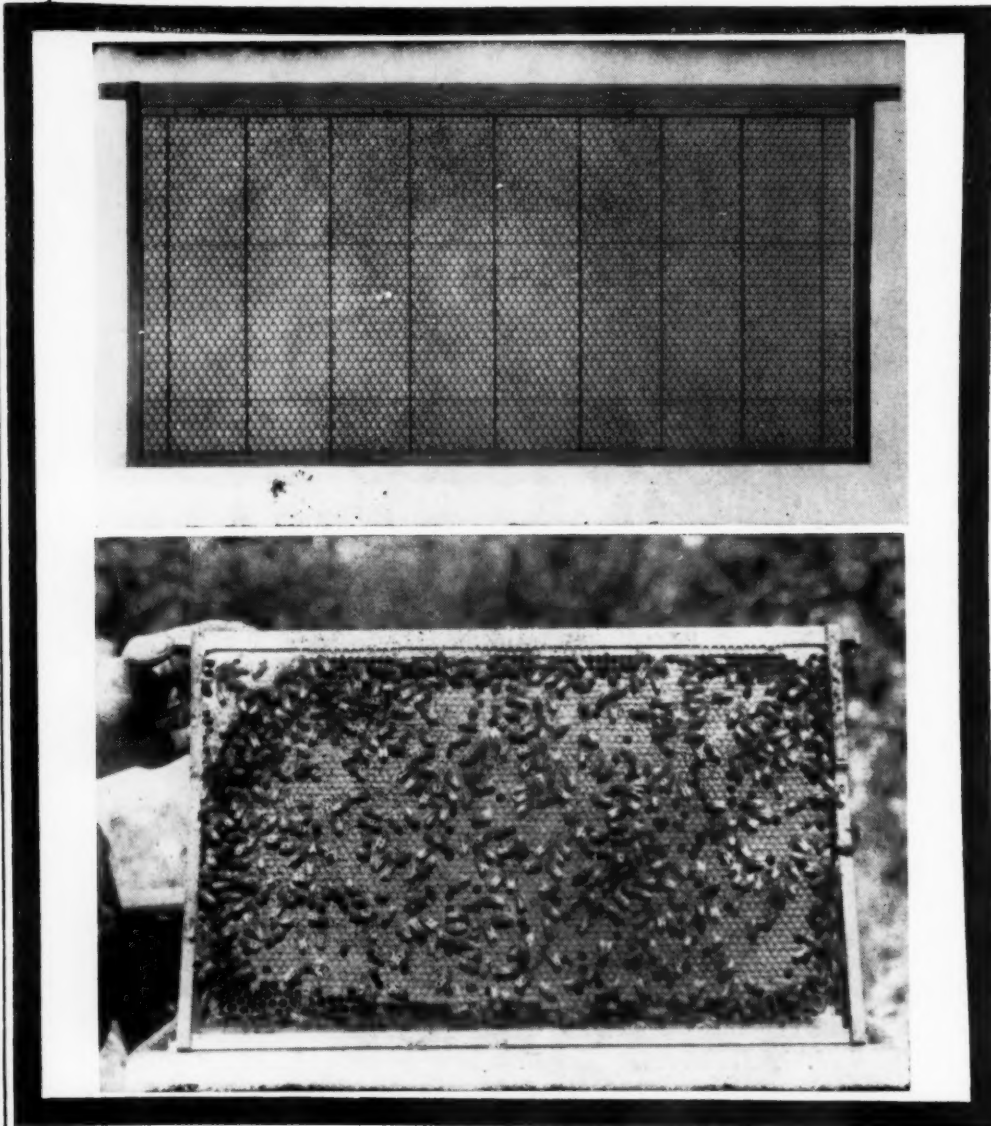
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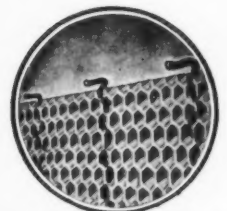
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Save MONEY and INCREASE CROPS With Dadant's Crimp-wired Foundation

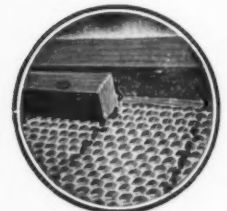
COSTS—Remember poor combs are expensive. Do not build poor combs, then replace them time and again. Dadant's Crimp-wired Foundation is an investment. It insures your combs against replacement. They last for years. They cost the least. Combs that stretch, sag, buckle or produce drones are expensive. Long after less sturdy combs from cheaper materials are gone, the everlasting combs from Dadant's Crimp-wired Foundation will still be doing their part to reduce the cost of honey production. They become almost permanent equipment.



This slogan tells the story.



The steel hooks at the top of the crimped wires hold your combs solidly in place.



Fasten behind the wedge in the top bar. This gives greater strength than any other means of supporting a sheet of pure beeswax.

CROPS—The fastest laying queen will not give you maximum production from poor combs. Get the best queen you can. Give her a set of fine all-worker combs from Dadant's Crimp-wired Foundation and watch your supers fill. They will give you pound after pound of honey-gathering bees and load after load of honey to extract year by year. You get more worker cells per sheet, more comb space in the hive, less congestion in the brood nest, less swarming, stronger colonies, bigger crops. Dadant's Crimp-wired Foundation makes the small hive big and the big hive bigger.

SAVE FROM THE START. USE DADANT'S CRIMP-WIRED FOUNDATION

DADANT & SONS : Hamilton, Illinois

MAKERS OF FAMOUS FOUNDATIONS—CRIMP-WIRED, PLAIN, SURPLUS



Pussywillow—James C. Dadant, Illinois.

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HONEY IS NEEDED

Due to the shortage of sugar, all kinds of sweets are needed to supplement the supply. Honey is one of the most important of these, so let's produce more than ever before.

We pledge ourselves to give you the best service possible under the circumstances. We are getting our bees in shape now; and if you will please book your order early, we believe we can supply more bees than ever before.

PRICE THROUGH MAY 15TH

Packages with Queens

	Queens	2-Lb.	3-Lb.	4-Lb.	5-Lb.
1- 24 -----	\$.75	\$2.50	\$3.20	\$3.85	\$4.45
25- 99 -----	.70	2.35	3.00	3.60	4.15
100-499 -----	.65	2.20	2.80	3.35	3.85

Queenless Package—Deduct Price of Queen
Tested Queen—Double Price of Untested

SUPPLY CATALOG ON REQUEST

THE STOVER APIARIES : Mayhew, Miss.

WOULDN'T YOU LIKE TO KNOW . . .

- That You can buy package bees that have never been subjected to overheating?
- That Every package you order will reach you in the same condition as when they are taken from the hive?
- That Your bees will reach you on the EXACT DATE when you want them to arrive?
- That Damage and losses in transit will be all but eliminated?

To give you just these assurances we have installed the best air-conditioning equipment available to be used for the specific purpose of caring for and handling of Puett's Perfect Package Bees and Queens.

Quantity and Prices	1 to 24	25 to 100	100 Up.
2-lb. Package with queen -----	\$2.50	\$2.35	\$2.20
3-lb. Package with queen -----	3.20	3.00	2.80
4-lb. Package with queen -----	3.80	3.60	3.40

For Loose-Queen type add 30c per package
Untested Italian Queens 75c. Tested \$1.25

Place Your Order Early to Get Preferred Delivery Dates

THE PUETT COMPANY : : Hahira, Georgia

SAVE TIME!

SAVE WORRY!

Dadant's Crimp-Wired Foundation

Can be nailed into Lewis Slotted Bottombar Frames in a jiffy.
And such wonderful combs you'll be proud of 'em!

SOLD BY DEALERS IN LEWIS BEEWARE and DADANT FOUNDATION

A HONEY MARKET FOR THE FUTURE

By GLENN O. JONES



WE are a nation at war, and war, by disrupting our transportation system and destroying much of our resources, causes radical changes in our living habits and in the food on our tables.

The rubber shortage is causing many to walk more than they have walked for years. The shortage of tin is expected to remove from the market many items of food, etc., which are on the luxury side. Sugar is scarce and will be more so and we must cut down the amount we use and find substitutes to answer the need for sweets in our diet.

We, as beekeepers, have a partial answer to the question of what to use for sweets. Corn sugars, maple sugars and cane sorghums will compete for their share of this market. If the price of any of them goes beyond a reasonable figure then that product will lose much of the possible gain. Honey prices must be kept at a reasonable level.

When peace comes again to this earth, as it must and will, we will face a period of competition with every other sweet on the market and with sugar again available in large quantities the pressure on honey will be terrific.

To meet this inevitable condition of the future we must exert every possible effort NOW to create a large number of regular users of honey, not as a filling for stock foods or a basis of beauty lotions but as a table delicacy. That is the correct and natural use for honey.

To build up such a large number of regular users it is necessary that honey be brought to the attention of large numbers of our people and that it becomes a regular part of their diet. To do this it will be necessary to revive the old interest

in bees and have at least a few colonies on every possible farm.

This may sound, to some, like wilful interference with vested rights but let us look at some history. At the beginning of this century bees were common on our farms. Honey was commonly found on a majority of farm tables and the price of honey on the markets was approximately the same as the price of butter. Cows are still found on nearly every farm but the bees have largely disappeared. This has not helped the price nor widened the market for honey. Butter has lost none of its popularity through widespread production.

Apples have gone much the same route as honey. Home orchards are far fewer and apple growing is largely in the hands of commercial producers. During the time this change has taken place more than fifty per cent of the apple market has been lost to the citrus fruits.

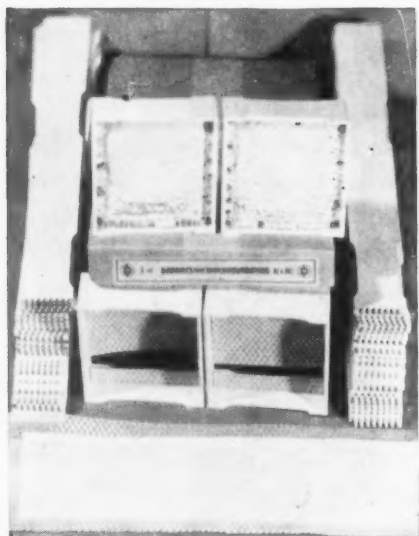
It is just now coming to be realized that the best possible support for any product comes from having a large and enthusiastic number of small producers.

Large numbers of our people are considering a few colonies of bees as a source of sweets for their own tables during the present emergency. Our best contribution to the future of our industry will be in the help we give them in securing a start which is free from disease or disappointment so that they may continue into the future as users and ADVERTISERS of honey.

Atlantic, Iowa.

What is Patriotism?

TIN containers may be difficult to secure to handle the whole 1942 honey crop. Since these contain strategic materials, if the material is needed for more urgent war use, the latter will have to come first. Glass will have to play a larger part in marketing the 1942 crop than ever before. Cartons will be more difficult to secure as time goes on. Certainly we believe honey producers are patriotic and will put up with shortages and devise schemes to handle their crop. We may get back to the days of local sales where the buyer brings his own container to be filled with honey.



Have you considered that sections are their own container? It is urgently recommended that every producer *consider the production of section comb honey* for at least a part of his local sales in 1942. The fact we have section honey boxes to sell makes this recommendation no less patriotic. You may not even use Lewis sections, but we still recommend you produce some section honey for local sales this year. All of us want to see this war won, and *anything any of us can do to help is PATRIOTISM*. Anything you can do to avoid having to buy more metal containers this year than in 1941 will be definitely helping to win this war. Use as much glass as you can for local sales of extracted honey. Produce some section honey, too.

Buy U. S. Defense Bonds or Stamps. WIN the WAR

HONESTLY MADE ————— HONESTLY SOLD ————— HONESTLY PRICED

LEWIS BEEWARE
 STANDARD OF THE BEEKEEPING WORLD

G. B. LEWIS COMPANY

Established 1863

HOME OFFICE AND WORKS: WATERTOWN, WISCONSIN

BRANCHES: ALBANY, N. Y. LYNCHBURG, VA. SPRINGFIELD, OHIO SIOUX CITY, IOWA

CONTRAST BETWEEN BEEKEEPING IN THE FIRST WORLD WAR AND THE PRESENT ONE

By E. L. SECHRIST

HOW history does repeat itself! I have just read, in the February issue that in this period of defense, a meeting of national leaders in beekeeping has been held to discuss the problems which face beekeepers in this crisis and to set up a course of action.

How familiar that sounds to me, and yet there is one difference. In World War I, I had just gone from California to Washington and thus had the privilege of sitting among the leaders at such a conference; while, now I sit here in California at my typewriter, thinking of the contrasts and writing down my thoughts.

It will be remembered that, in World War I, much stress was laid on producing more honey. We made strenuous efforts to bring that about. The nation did produce more, but **we neither produced enough, nor continued to produce enough after the war was over.** We did not increase our output of honey enough to insure us, as honey producers, a high priority rating in the present war.

Therefore when, recently, a priority rating was asked for, those in authority simply said, in effect: "Huh! You fellows produce only 3 pounds of honey per capita while sugar growers produce 87 pounds of sugar. Why should you expect any priority? The priority you had in the last war doesn't seem to have made much permanent increase in the quantity of honey you produce."

Then what could the poor beekeeper say? He simply had to admit that, on the score of honey production, he could not ask for priority.

But there is a very wise man at the head of the Bee Culture Laboratory in Washington and he has solved the problem. He pointed out that the position of beekeeping in producing food is far more important now than it was in War I, not merely because of the honey which could be produced and the need for bees in pollination of fruits, but, primarily, because of the greatly increased need for bees on farms for the pollination of plants that have a great bearing on the total food supply.

Not only will fruits and vegetables be in great demand but so will the

seed of legumes on which pastures depend. It is acknowledged that clovers and other legumes are the foundation and support of cattle for the meat and dairy industry. The greatest urge in history is being placed on the farmer to increase his production of meat and dairy products. Larger areas of good pastures must be provided. To that end, bee colonies must be increased in number so that enough seed may be produced for these new pastures. More and more seed will be the cry. We must have more and more bees; not, primarily, to produce honey, but to pollinate the clovers and other legumes so that we shall have an adequate supply of seed. Seed depends on the bees. For instance, a fully pollinated field of alsike clover will produce more than four times as much as one which is located a little too far away from plenty of bees.

Therefore, because the Government understands that, without an adequate supply of bees, not enough seed can be produced, our manufacturers have been given an A-3 priority. This is the highest possible priority that could be given us. Only to actual war industries could anything higher be given.

Can we meet the responsibility? Are we going to live up to the chance that lies before us now any better than we did in World War I? I wonder! Let us consider.

In World War I, we became excited over the high prices we received for honey; and, I fear that, in the urge to make money, many forgot any patriotism they may have had. After the war had ended, I saw big honey houses with fine equipment, and big homes that had been built by beekeepers on money they had borrowed on the apparent belief that high prices for honey would continue; and I saw beekeeper after beekeeper losing all he had to settle for the money he had borrowed. Have beekeepers learned anything by that experience? I wonder!

However that may be, we have now an opportunity to look at a similar situation again and in a new light. **Instead of being urged to make money for ourselves, we are urged to help our neighbors.** Of course, we shall, naturally, help ourselves also,

but that is not the primary matter. It is up to us, for the sake of a new and better civilization, to extend our help to our neighbors all over the world, not because we make money out of it, but because it is right to do it and we wish to do it. **We shall keep more bees to produce more seed to produce more food to give more people enough to eat.** These people are not all in foreign countries, either. We have swarms of hungry people in our own country. In Tahiti, where everybody can, easily, have enough to eat, I had almost forgotten there was such a thing as hunger in the world. But here, in Los Angeles, one cannot forget. For instance, I know of one family of 12 children, and one woman, who have two rooms to live in and almost nothing to live on. What they have, mostly beans from relief supply, they cook out of doors, over an open fire, in tin cans. They have no cooking pots of any kind. In one room, they have a double bed with a mattress but **no covers.** In the other room is a single bed with one blanket on it. There is no male wage earner in the family. This is not an isolated instance. There are thousands of families in Los Angeles suffering from lack of food and insufficient housing.

We can hope, as Vice-president Wallace has said, that out of this war will come a situation in which all the people of America will have sufficient food. We, as beekeepers, are in on the ground floor, so to speak, in the matter of food production because the government believes we will produce enough seed to entitle us to priority. Again, I ask, are we going to live up to our opportunity? We failed to do it in the last war. Will we do better this time?

It is not to the point to say that prices will be held down, and that we shall not get rich out of it. Nor is it to the point to say that someone else will get the profits while we do the work. It may be that that will happen, as it has happened before, even during the last war and the depression that followed.

The point is that it is up to us to produce what is necessary, the bees to make the seed, and then, if we

have "guts" enough, to see to it that such conditions are brought about that the producer and consumer do not suffer while someone else manipulates finances and gets the profits. **We can have just what we want as soon as we want it**, but that does not mean that we shall get what we want and need simply by saying that we want this or that and then doing nothing about it. Faith without works is dead; and however much faith we may have that all will be well, unless we buckle down and take an interest in our government and really work at the job, showing that we mean to have what we need, history will once more repeat itself; the result will be, just as it was after the first war, that we shall go on in the old rut and, in about another generation we shall have a third war to give us another chance to do the right thing. We had that chance when the First World War was won. We did not take advantage of it but fell down on the job. Now we are having another change. Will we accept the opportunity or will we say: "Let the other fellow do it; I'm too busy!"

Unless each one of us, personally, does what he knows to be right in this time of terrible trouble, we shall fail again. But if all of us work together we can have, as I have said, anything we instruct our government to do for us. **We are the People.** Let us not forget that we, you and I, are the Government, and that **we can do as we will, if we will.**

Here on the Pacific Coast, and also in the southern states, are great areas where bees thrive and reproduce themselves with great rapidity, but where, owing to local conditions, honey production, as we now handle it, is not profitable. In some of these places, more package bees could be produced to be used where there is need for pollination, and where good nectar-flows make for abundant surplus honey. In some of these places pollen can be produced to be supplied to bees in areas where there is a lack of pollen for brood rearing or for supplying vitamins and other nutrients that are going to be greatly needed. It is more than possible, also, that pollen can be used in industrial work. In the February issue mention is made of a **barrel of pollen** being shipped to Washington. A few years ago, who would have dreamed of **pollen by the barrel?** Without doubt, 100,000 tons of pollen could be produced in a single year without much increase in the colonies of bees now in the United States; and, with better use of now almost unoccupied areas, this tonnage could be much larger.

And there's another thing. If we do really go in for keeping bees on a huge scale in order to supply the

demand for seed, we are going to produce considerably more honey; shall we say as a by-product? Unless we are to fail again in our job we shall have to find some way of handling the increased production of honey more cheaply and with less labor than we now use per pound of honey.

Survey figures show that it costs us too much to handle the crop of honey after the bees have carried it to the hives. Beekeepers generally recognize that the great difficulty in producing honey is in handling the combs and honey after they are taken off the hives. To produce honey in supers on the hive requires comparatively little labor. **It is the handling and preparation of honey for the market** that drains the beekeeper of time and strength.

Some experiments are now under way to remedy this, and to remedy the difficult situation caused by the selling of small lots of honey of all qualities to dealers. This means that beekeepers should merely produce honey, as dairymen produce cream, all the handling, processing and marketing to be done by factory methods. To this end, honey can be produced in a cheap super and these filled supers can then be delivered to a co-operative warehouse, just as the farmer sells his cream to a creamery. He does not bother about making and selling butter. The equipment is too costly and the technical details are too difficult for the farmer and the work can be done at less cost and with more efficiency at a central co-operative. As we now operate, each beekeeper has a big investment in machinery that he uses only a few weeks yearly, and which he operates so little that he can scarcely expect to become an expert in processing his honey. It should be done in a factory that can run all the year.

Plans are under way, here in California, to work out such a scheme, and many beekeepers are feeling immensely pleased over the thought that now, once again, they can **keep bees**, and not have to do all the heavy routine work of preparing the honey for market, usually with insufficient equipment.

I feel sure that not until some such plan of handling honey is carried out will beekeeping reach the status of a big industry. At present, the investment of the beekeeper in equipment for honey handling is greater than his sales will warrant, and I see no chance that it can ever be otherwise until, as I have said, we run the honey-handling end on an economic, factory basis, leaving only the actual breeding and production of bees to the individual beekeeper. Honey can be handled by machinery, in a

factory, just as butter is. Bees cannot.

If such a system were now in operation I feel sure that, even at my age, I could go back into beekeeping and handle a thousand colonies with ease. And what fun it would be not to have to bother with extracting and canning and bottling honey!

It is a fascinating prospect and, as I said previously, what we want, we can have, **if we want it.** The question is, do we want it? Do we want to do the biggest thing for the world that our industry can do? Or will we sit still and hope that someone else will do it? Our priority is a challenge and a grave responsibility.

Let's go!

OUR COVER PICTURE

The cover picture is of Karen Jane (Honey) Francis, of West Allis, Wisconsin. Her mother, Mildred Francis, writes: "She is one of our best advertisements for the wonderful uses of honey. When any of our customers are in doubt about substituting honey for the manufactured syrups in infant feeding, we just show them our baby and let them decide for themselves. Right?"

"Doctors have a funny way of acting unconcerned about feeding honey to babies. They don't care if the parents want to make the change, but they don't recommend it. Well, we took the chance. Now we have a healthy, happy, contented baby. She is several pounds advanced, in good solid weight, has regular habits and a great resistance to colds. Ours is a honey baby!"

"SUBSTITUTE"

The word "substitute" is offensive and is dangerous to the reputation of any food product. It degrades, suggests inferior qualities, often times applied to cheap manufactured products to replace natural products.

Honey cannot be a food substitute for it is the genuine, original sweet and is still the top quality in its field. Let us disapprove of radio broadcasts, newspaper and magazine articles, which imply that honey is just as good as or is a substitute for anything else.

Sure we think it is fine for people to cook, can, etc., with honey (if there is enough aside from dessert purposes and spreading uses), but let's put it in its true light as the real article so it will be appreciated.

Edward Trimble,
Minnesota.

RUBBER

There is much confusion about rubber. In newspapers comes the report from the War Production Board, and particularly from Leon Henderson, that rubber is out; that there is little prospect for rubber for three years; that passenger cars will be laid up; that many will have to be converted into busses; that tires may be taken from civilians; that cars may be commandeered. Over against that, with every industrial group doing its best to meet the situation, we have the report from others who say that it is not exactly as it is pictured. What is the man who knows little about it to decide?

We learn of new plantations in Haiti, we learn of the contract with Brazil to harvest wild rubber on a larger scale than ever before. We read that there is synthetic rubber lag. Why, we don't know. The president of the Standard Oil Company, W. F. Farish, states that, with an investment in synthetic rubber producing facilities of less than \$15.00 per passenger car, we could have rubber to keep America's automobiles on the roads and to fulfill all our military needs. Apparently, it would take a government subsidy to supply the millions necessary (probably \$800,000,000) but nothing is being done about it. Shall we blame the government, the tire companies, or shall we blame those who stopped our synthetic rubber production along with the destruction of pigs and cotton, during the crack-brain era of agricultural restriction?

According to Babson, if we could get along on half of our civilian tire use, and without the things that have been made of cotton and rubber, the American people would have enough rubber of a sort to do during the entire war period.

There is one thing we have not heard mentioned which seems to be very important in the tire situation. About forty years ago every community in the United States started pushing its business frontiers out over hard roads and on rubber tires, until now, to constrict business into the confinement of the horse and buggy days, is an impossibility. Unless rubber or a rubber substitute of some sort is available, much of American industry will begin shrinking, much of it will vanish. Then who will supply the money to support the war program?

As beekeepers, we must take our chance along with farmers under the provisions of the local boards who will see to it that as essential food producers we get every attention it is possible to get.

A PRICE CEILING

There is need for a price ceiling on honey all right! We hear of a baker, who having bought from one source, a beekeeper, for years, at previous prices, was suddenly asked by this same individual beekeeper, to pay 16 cents a pound for his honey. Naturally, the baker feels hurt. He won't use the honey unless he has to. He will get it cheaper if he can. And when he can get along without it, **he will get along without it.** This is not only one instance. There are many.

Also, the regular channels of honey distribution are being robbed of volume by the high prices being offered by fly-by-night buyers who, once they are able to get along without honey, will have no further interest in it. In the meanwhile, when those who distribute honey to the American table and American industry are short in volume, their business is badly hurt. This is not a pleasant situation.

So, we do need a ceiling. But this matter of ceiling is not as is generally supposed, something to be determined by the honey producer, the honey packer, or the supply manufacturer, or the official apiculturist. A ceiling is something imposed by an agricultural act to operate in relation to the prices obtainable for agricultural products, honey included. There is nothing we can do about it. It is based on the cost of production and a price obtained for the product to give a fair profit. It is a rather complicated proposition. Progress is being made in the determination of a price ceiling for honey and soon we should know what it will be.

However, it should be remembered by those who do not understand the situation, that the beekeeper or his industrial associate, has nothing to do with it other than to accept the parity price determined and to be assured that changes will be made from time to time to work no hardship on the industry. One thing is very certain. The price which will be obtained under the Agricultural Act will be considerably higher than the prices which beekeepers have had to take for so many years.

PRODUCTION PROGRAM

There is a great urge to produce more honey. The demand for honey because of the shortage of sugar would in itself be an urge to produce more. Many states are behind the program to interest the farmer in producing honey for home use. Colorado has been particularly noted in its program for rural families producing

honey for their own needs. There is some question in other states whether this is wise to do. Some states have garden programs in which the honeybee is not considered. There is a division of opinion and sentiment over the matter. However, it does indicate that there is much interest in honey production and honeybees.

The main value of bees in the food program still remains that of pollination, as Mr. Sechrist points out in this issue. Along with pollination, however, there will inevitably be an increase in honey. There has been in the press numerous notices of the impetus behind beekeeping. Releases from Associated Press and other sources have flooded the newspapers of the country with the things that have been happening in our industry. One thing is sure, as food producers we are in a very fortunate position, and it is up to us to do the job for the country in the emergency in the best way we can possibly do it.

SUGAR

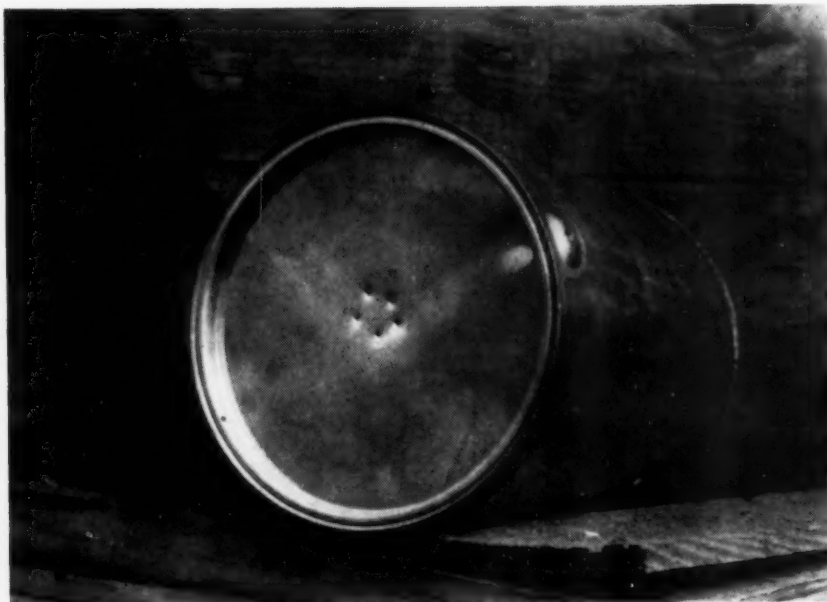
Most beekeepers are now familiar with the fact that they may obtain sugar for feeding bees by purchasing from their regular source of supply, on a monthly allotment, 80% of the sugar used for feeding purposes in 1941. However, should sugar by this means not be sufficient for the present season, we are advised by A. E. Bowman, Chief, Sugar Section, Food Supply Branch, War Production Board, that sugar may be obtained by wiring or writing his office stating the amount of sugar needed in 100 pound sacks; the number of colonies to be fed; the approximate date on which the sugar will be needed; and the name of the supplier from whom it is proposed to secure it.

We are advised by Mr. Bowman that beekeepers should plan on a period of two weeks to be sure they have ample time to make their request, have it considered, obtain action, and secure their permits. Do not wait, then, until you need the sugar, but anticipate your needs, as Mr. Bowman advises.

NEW OFFICERS

M. Haner, Vernon, B. C., was elected president of the Okanagan division of the B. C. Honey Producers' Association at the annual meeting at Vernon. J. Dicks was named vice-president; G. A. Hall, secretary-treasurer, W. H. Turnbull, membership secretary, and F. Bettschen, delegate to the central executive.

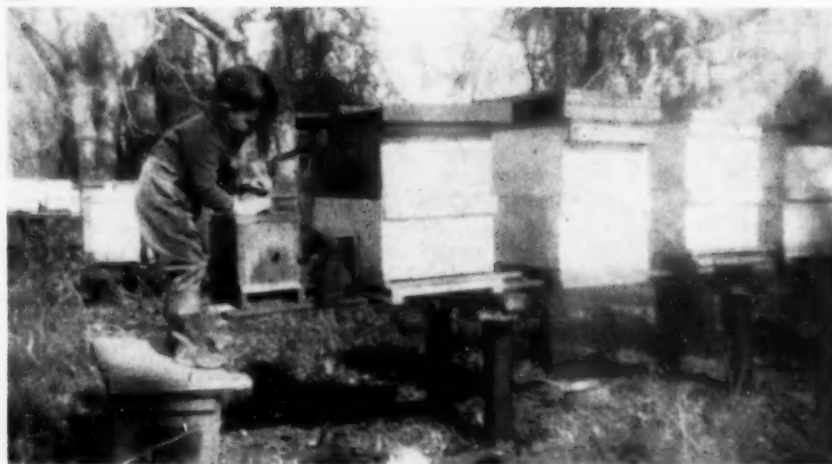
F. H. Fullerton.



1



2



3

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1 AND 2—FEEDING

Here is the regulation 10 pound friction top pail used for spring and fall feeding of bees. Note the circle of punctured holes in the lid. The lower picture shows the device with which the holes are made all at one time. Simply nails without the heads sharpened to a point, in a stick. It is very easy to make.

For spring feeding, use two parts water to one of sugar; heat until dissolved. It is not necessary to boil. For fall feeding, the proportions are two parts sugar to one of water with the sugar converted by a tablespoonful of tartaric acid to 100 pounds of sugar. This will prevent granulation.

Beekeepers are fortunate in being able to obtain sugar for feeding bees. It is likely that this spring, after a mild winter, there will be more feeding than is ordinarily necessary.

Details about how to secure sugar for bee feed are given in the front of this issue. Make sure that you apply for sugar necessary at least two weeks before you need to have it on hand. Directions by Mr. Bowman of the Sugar Section of the War Production Board are outlined in this issue.

Usually in spring feeding one pail of the syrup at a time is given to the colony; a 10-pound pail, not a 5-pound. The 10-pound pail is still available. Feeders when empty should be dried and stored for future use. Do not store them with syrup remaining in the pails, since this will eat the tin and cause a leak. Once the pail leaks, it is of no further use for feeding. Do not store them where they will rust. It will do no harm to put a light oil on the outside. They should be in a dry, warm place until they are needed again.

Make sure that each colony has sufficient stores to continue brood rearing and production of field bees until it is time for the start of the honeyflow. Don't take a chance.

3—ANOTHER BEEKEEPER

Here is a picture of my three-year-old son, a beekeeper in the making. It was taken without the boy knowing. He was caught in the act. He has his own queen mating hive and goes through the performance of catching queens. He actually catches any bee that he can and places it in the queen cage as you will see in the picture. His name is Little Woody St. Romain. He is a honey baby and eats honey daily.

A. D. St. Romain,
Louisiana.

AMERICAN BEE JOURNAL

1 AND 2—SELLING AT HOME

Here is a picture of my building for supplies. My home bee yard is in the back of the building. A bird feeder is on the post by the side of the building. It turns with the wind to keep the feed dry. The picture of the front shows the end of my small greenhouse in which I start my vegetable and flower plants.

The other picture is of the stand and part of our house. I now have a circular seat around the tree, and a straight one from the tree to the building which I use in displaying honey. There are doors that let down in front to a level supported by chains on either side, and have a display rack on each one on rolls so when opening up or closing, all we have to do is give a push back or a pull out.

There is a counter built inside on the same level as the door, and when the door is down it forms a support at night. Inside is a swarm of bees in an observation hive which revolves. The outlet is connected with a skep painted on the gable over the word "Honey." I added a window box for each end with petunias in a variety of colors. I sell a lot of honey from this stand and meet many nice people from over the entire country.

Carl E. Chappell,
Maine.



1



2

3—THIS ENGLISH GIRL CARRIES ON

D. M. Cuthbertson, of Brighton, England, sends us this picture for the Journal, probably his daughter. Honey is still good, war or no war.

The interest in the outdoors, in flowers, in the bee yard, in growing things is now one of the great satisfactions of the English people who have been up against a steady nerve drainage since the war began.

In this country we too may soon need such relief.

War gardens are the desire of the hour. Many states have united war garden efforts like the one in Iowa. In some states bees are included as a part of the program and in others it is not thought desirable to do so.

Whether this is true or whether it is not true is a question which would lead to great disputes. Nevertheless, beekeepers themselves should increase their garden efforts wherever they have a piece of ground with soil suitable for the purpose, and can with honey as much as they are able to manage for winter food supplies.



3



1—MIDWINTER FLIGHT

Asberry Singleton, of Gladstone, Manitoba, takes his bees out of the cellar in midwinter for a cleansing flight. Here he is examining his bees which he finds in splendid condition.

He reports western Canada is enjoying one of the mildest winters in history. The snow has gone (January 30) and the sun's rays pouring through an empty sky warms the bare earth and bees on removal came out and flew freely in midday. In thirty-seven years of experience, Mr. Singleton says this is the first time he has seen bees fly in January, at that point.

2—THE HONEY STAND

Harry G. Meyers, of Brooklyn Village, Ohio, sends us this picture of his honey stand by the side of the road. Much honey moves this way. It is surprising that more beekeepers do not take advantage of the opportunity offered to sell limited production in their vicinity in a similar fashion.

Many dispose of their entire crop by well placed roadside stands, either furnishing their honey on a commission basis to stands already operating or establishing those of their own for the purpose.

3—SAND CRICKET

Joseph F. Reinhardt, state apiarist, identifies this as a sand cricket. I found it in my bee yard. No special danger to the bees, but an interesting specimen which other beekeepers may see in their own yards, and this will help them to know what they are looking at.

Charles M. Smith, Montana.

4—AND ANOTHER

Here is a picture of my bee yard and boy, Pressley East, seven years old. I have twenty-five colonies of bees and work for the Lane Cedar Chest Company. I keep bees because I like to work with them. I sell a lot of honey.

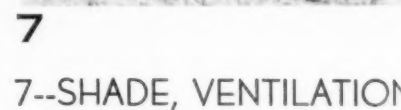
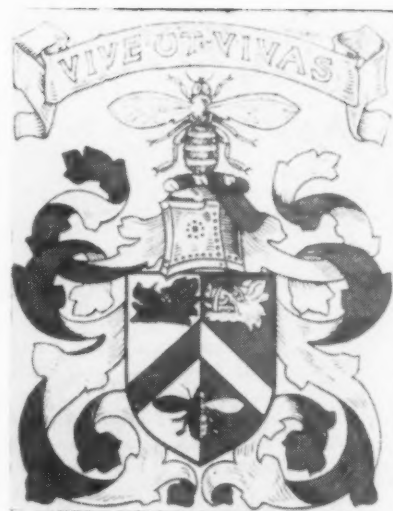
Bud East, Virginia.

5—LIVE TO HAVE LIFE

That is what Vive Ut Vivas on this shield means. It is from Dr. A. Abercromby, Capetown, South Africa, a good motto for beekeepers, all will agree. This is one of the many illustrations of bees in heraldry furnished by the late Dr. Bodog F. Beck.

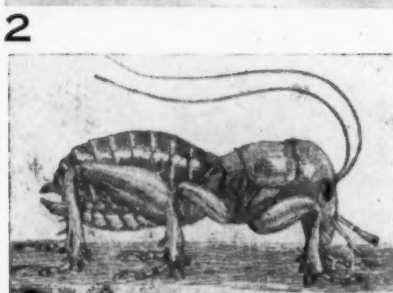
6—IN THE HIVE

Package bees beside the frames in the hive in the conventional manner. Wet the bees down. Plain water will do. It delays flight. Make sure the queen cage is between the combs. Feed if necessary. Cover and leave alone.



7--SHADE, VENTILATION

Both necessary to keep bees comfortable and cut down swarming. Here is a home-made outfit with a slant shade roof made by Charles Barrick of Missouri. There is plenty of room at this hive bottom, maybe too much. But lots of room in hot weather does no harm.



4

FEATURES



Edgar Abernethy, North Carolina.

HONEY AS SEEN BY THE FOOD
CHEMIST
WATER FOR BEES
THE CAUSES OF POOR WINTERING

THE PACKAGE THAT PLEASES
SWARM CONTROL AND QUEEN
REARING
OUT GOES THE OLD BOX

APRIL, 1942

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HONEY AS SEEN BY THE FOOD CHEMIST*

A TWO-PART ARTICLE

By GEORGE P. WALTON,
Agricultural Chemical Research Division,
Bureau of Agricultural Chemistry and Engineering,
U. S. Department of Agriculture

Mr. Walton in the laboratory.

We have heard a good deal about scientific research having out-distanced our ability to make economical use of it, and how we ought to call a halt, turn our attention to practical application of the fruits of accomplished research, and "cash in" on this "accumulated surplus" of what, admittedly, has been a highly profitable form of investment. To halt fundamental research would be a short-sighted policy for the future, but it is a fact—which should be set right—that in many industries we do not make the most out of the established scientific knowledge available to us.

Since it is not unlikely that the honey-producing industry may be in this category, at least "in spots," this is an excellent opportunity to take stock of our progress in making use of the established facts in the "science of honey."

First, let us consider the "classical" definition of honey: It is the nectar of flowers, gathered, modified, and stored in the comb by honeybees. It is a natural foodstuff, probably the sweetest directly produced in great quantity in nature—adapted from time immemorial to the diet of mankind.

Since scores of flowering plants serve as the source of the nectars gathered by bees, honey is not a definite, uniform commodity.

From the food chemist's—or rather, the food technologist's—viewpoint, however, liquid honey is too often just a heavy sugar sirup containing about 5% of minor miscellaneous constituents. These miscellaneous constituents, although minor with respect to the amounts in which they occur in honey, nevertheless account for its color, flavor, aroma and

certain other properties. Together they constitute a most important difference between honey and a good, heavy-bodied invert sugar sirup. Another important difference is, of course, the preponderance of the sugar levulose in honey. The "minor" constituents account, also, for the great differences in color, flavor, aroma and characteristics among honeys of different floral nectar types. What may be called the generalized average composition of American honeys, but an analysis which possibly does not fit an individual type of honey would be: moisture, 18%, levulose 40%, dextrose 35%, sucrose about 2%, dextrine, say 0.8%, acidic substances 0.1%, ash, or mineral matter, 0.1%, and approximately 4% of what has been described as "undetermined."

Since extracted (liquid) honey ordinarily is 93 to 98 per cent (the above analysis shows 95 per cent) sugar sirup, let us first consider the sugars of honey.

Straight floral nectar honey contains only the three sugars, levulose, dextrose and sucrose, in noteworthy amounts. A fourth sugar occurs in relatively large amount in one type of honey, namely honeydew honey. This is the trisaccharide sugar, melezitose, the occurrence of which is comparatively rare except in honeydew honey. Levulose, also called fruit sugar, or fructose, is probably the sweetest of the common sugars, and is the one that occurs in largest amount in ordinary honey. Because of its high solubility in water, levulose rarely, if ever, crystallizes out of honey. Dextrose is commonly known as d-glucose, corn sugar, or sometimes as grape sugar, since it occurs in that fruit. Less sweet than either levulose or sucrose, dextrose is also less soluble in water.

This lower solubility of dextrose accounts for the fact that under favorable conditions it commonly crystallizes in honey, producing what is called "granulation." Sucrose the third sugar, of which rarely more than 8 per cent (usually 1 to 3 per cent) is present in honey, is common table, or white sugar.

The proportion of the two principal sugars, levulose and dextrose, vary considerably in different honey; for such honey as those from the clovers, alfalfa, buckwheat, and cotton, all of which are prone to granulate, the ratio of levulose to dextrose (or quotient obtained when we divide the percentage of levulose present by that of dextrose) is around 1 to 1.1. For honeys such as mountain sage and fireweed from the West, or southern sourwood honey (that show little or no tendency to granulate), the ratio of levulose to dextrose varies from around 1.25 to 1.45; and finally, for honeys that rarely, if ever, granulate, such as good, straight tupelo honey, this ratio averages around 1.70. Extreme ratios of levulose to dextrose for southern tupelo honey have been reported as 1.54 and 1.97. The latter figures from Dr. C. A. Browne's famous Bureau of Chemistry Bulletin No. 110, published in 1908 on the composition of American honeys. This means that for the tupelo honey reported by Dr. Browne, the content of levulose amounted to nearly twice that of the dextrose, the figures being about 48 per cent for levulose and a little over 24 per cent for dextrose.

Now, since granulation of honey is the crystallizing-out of the dextrose sugar—and levulose rarely, if ever, crystallizes,—it is evident that this ratio plays an important part in granulation. Not only does the levulose sugar not crystallize out of

*Agricultural Chemical Research Division
Contribution No. 50.

honey, but there is evidence that it assists in keeping the dextrose in solution. Levulose also may be credited with much of the desirable moisture-retaining property of honey when used as an ingredient of breads, cakes and other baked goods.

Two measures are available to honey producers and bottlers for the control of granulation. The first is the commonly practiced one of heating the honey to make certain that all crystals of sugar, however fine, are re-dissolved. This removes all nuclei for crystal formation; and honeys that have been heated at 140°F. for a short period of time, or at 160° momentarily (so-called), will often remain liquid for a long time. In bottling this honey, care should be taken with the gate valve and the other equipment to see to it that no sugar crystals enter the honey at the time of filling the containers. The other measure that may be helpful in retarding granulation is to store the honey at a temperature above 65°F. Granulation is most likely to occur between 50 and 65°F.

While on the subject of sugars in honey let us consider the sweetening power of honey in relation to that of individual sugars. Very little direct experimental work has been done to determine the relative sweetening power of honey. But the relative sweetening power of common sugars has been determined by actual tests, employing a jury of tasters for the purpose. On this basis, with sucrose, or common white sugar, rated as 100, levulose sugar has an average rating of about 175, and dextrose 66.* It is therefore easy to calculate roughly the relative sweetening power of a given honey, knowing its composition. Applying these figures to our generalized average analysis for honey we get a relative sweetening power of 95, and for tupelo honey, containing more levulose, we get a figure of 101 (both are on the basis of sucrose being 100). These figures show no great difference in sweetening power between the various honeys and mean that, roughly, we may consider honey about equal in sweetening power to common white sugar.

Although undesirable fermentation of honeys is more related to the moisture content and the number of live yeast cells present than it is to sugar content, nevertheless fermentation may well be considered in connection with granulation. The reason for this relationship can best be ex-

plained by considering a specific case. Suppose we have 100 pounds of a readily granulating honey, such as alfalfa honey, containing 37 per cent dextrose and 19 per cent moisture. Now the critical moisture content at which fermentation is apt to occur in an unheated honey stored in a cool place has been found to be about 21 per cent. We will assume that this 100 pounds of honey has granulated to the extent that 20 pounds of the 37 pounds of dextrose present has granulated. In granulating, it has taken one-tenth of its weight of water away from the liquid honey, making 22 pounds of crystals outside of the system of liquid honey. This means that there remains 78 pounds of the liquid, containing only 17 pounds moisture, or natural water, but the 17 pounds amounts to well over 21 per cent of the weight of liquid honey. Hence, other conditions being right, such liquid honey would be likely to ferment. If the original moisture content were 20 instead of 19 per cent, the tendency to ferment would be all the greater, since in that case the moisture in the liquid portion would exceed 23 per cent. Measures for controlling fermentation include so-called pasteurizing and storage under conditions that retard fermentation. Prof. F. W. Fabian and his associates at Michigan State College of Agriculture, East Lansing, Michigan, have reported (Technical Bulletin 92) that heating honey at 145°F. for 30 minutes (with provision that all parts of the honey are at this temperature for this length of time) pasteurizes the honey sufficiently to inactivate yeast cells. Other investigators have found that storing honey at temperature below 50°F. inhibits fermentation. Storing honey at 52-65°F. seems most likely to encourage fermentation.

Before leaving the subject of sugars in honey, the use of honey in confectionery should be considered. Outside of a few commercial lines of 5-cent honey bars, perhaps the chief use of honey in the candy industry is making fine nougat. Originally nougat was made entirely from honey, so far as its sugar ingredient was concerned, but with the advent of cheaper commercial sugars, the use of honey fell off in the making of nougat in this country. There still are, however, manufacturers of fine candies who are willing to pay the price to obtain honey of the kind required for nougat. One manufacturer of such fine candy told the writer that the requirements in honey for making nougat are as follows:

(1) The honey must have a pronounced flavor that carries over in the finished candy.

(2) There must be an absence of grain-forming tendency traceable to sugar.

(3) The finished candy must have a light color. It should not darken due to the cooking of the honey used. Honeys formerly favored in the manufacture of fine nougats in this country were so-called Mt. Hymettus honey from Greece, produced from the wild thyme plants growing on Mt. Hymettus, pronounced-flavored honey from the West Indies, and even a very high-priced vanilla-blossom honey, rare enough to be considered a museum piece. This would appear to be an excellent opportunity for introducing pronounced-flavored southern honeys to the confectionery trade. It is understood that tupelo honey has been tried and has given fair satisfaction and that titi and gallberry honeys have been considered. There must be other southern honeys that can very well fulfill the requirements of this industry.

The facts that have just been brought out regarding sweetening power and sugar content of honeys provide a basis for prescribing the quantities of average honey in comparison with the quantity of sucrose (table sugar) that should be used for a given purpose in food industries. Where honey is to be used for its total content of sugars, irrespective of sweetening effect, one could prescribe 1 1/3 pounds of average honey as being the equivalent for each one pound of sugar. Where total solids content is the basis for comparison, 1 1/5 to 1 1/4 pounds of honey ordinarily would be the equivalent of one pound of sugar, and the food technologist should remember that in the case of honey the extra 1/5 or 1/4 pound is water. For sweetening power, pound for pound appears to fit the available information, although this ratio may be subject to some variation.

(To be continued)

IOWA SHORT COURSE MAY 7-8

The annual short course for honey producers will be held at Ames on May 7 and 8. A new feature this year will be to devote the program on May 7 to material of immediate interest to beginners. The program on May 8 will be devoted entirely to commercial honey production. This is a new venture and will give an absolute measure of the interest of the two groups. The program is being arranged with an idea of giving the best possible information of immediate concern to the producers of the two respective groups. The printed program for this meeting will be available on April 20. Anyone interested in the program is invited to attend and participate in the sessions.

Prof. F. B. Paddock.

*Dahlberg and Penczek, "The Relative Sweetness of Sugars as Affected by Concentration," Technical Bulletin 258, Geneva, N. Y. Agr. Expt. Sta. reported only this year that the relative sweetness of dextrose, corn sirup, solids, and maltose increases as the concentration increases until at 40 grams of dextrose in 60 grams of water, the sweetness equals that of a sucrose solution of the same concentration.

WATER FOR BEES

By ALFRED H. PERING

THE need of water so bees may successfully carry on their brood rearing is admitted by all beekeepers. How much bees use under varying conditions is hard to estimate, but it is certain they require more during hot weather than when the temperature is cooler. Colonies exposed to hot sun will use much water in their efforts to combat the heat within the hive, water which is dispelled by evaporation to moisten the air.

I think water is required in brood rearing regardless of temperature especially if the honey is thick after remaining sealed throughout the winter. It has been my observation that many bees are lost in early spring or on days when it is hardly warm enough for bees to fly out when they sip at cold water until they get chilled or take in too large a load and are unable to fly with it.

Repeatedly I have seen bees fill up at a supply of water provided especially for their use and even though the water tank was purposely high off the ground to give the bees a good send off, the bees would gradually sink to the ground, never able to rise again because of their load and its temperature.

Losses from spring dwindling I attribute to this attempt to carry water when the weather is too cold. To a certain extent, that is true. Here, in Florida, where we have cooler nights than days, and when, during the winter season, brood rearing is carried on to a less degree than

in spring and summer, water will get too cold at night and is slow to warm up before the bees are able to fly in the early morning sunshine.

I have watched this to a considerable extent. I have arranged and rearranged the water supply to avoid loss from this source. Finally I hit upon the plan of supplying water to the bees without their having to leave the hive. The picture shows the way in which the inside of the hive to supply water is maintained.

I first tried to use the Boardman feeder at the entrance, but I have learned that it is profitable to use this water feeder during the summer as well as in winter, and when the water feeder is at the entrance it interfered with the passing of the bees and tended to shut off ventilation. I therefore shoved the hive body forward on its bottom board until a board four inches wide can be placed in the rear of the brood chamber. This board covers the exposed portion of the bottom board and through it is a hole over which the can of water is placed. The bees have access to the water without leaving the hive.

It is hard to measure the gain in using this method of feeding water. I have tried it out for two summers and two winters with hives side by side, one with and one without the water. Those with a feeder do less fanning at the entrance. Those without do much more. The water fed colonies become stronger than the

others, especially in the early part of the season and lay up more surplus, and do not swarm as quick. In the warmest weather that we have here the bees will use up a little more than a quart of water per week per hive. In the fall, winter and spring, they use a little less and sometimes they seem to use none.

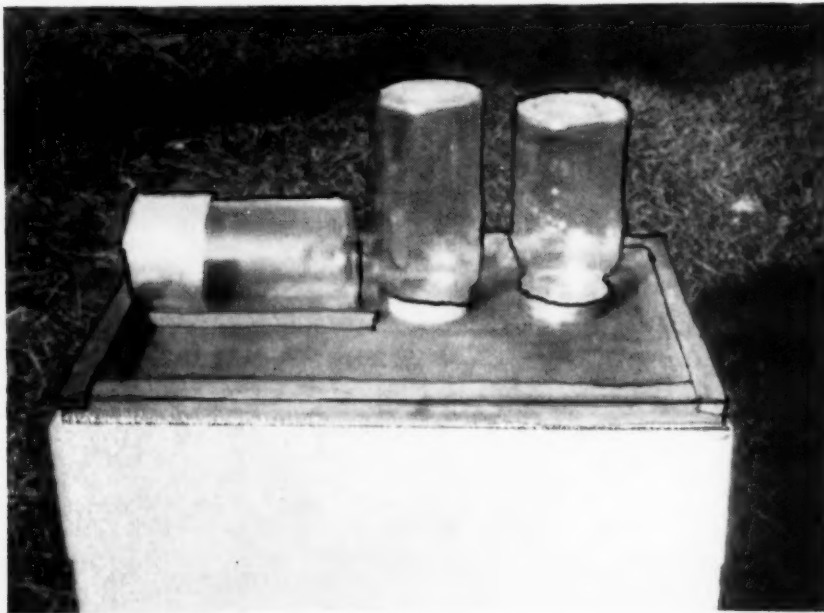
Referring to the picture you will note there are three feeder cans, with one of them lying down. In this one I place wax cappings that have been finely broken up. The glass can has a tin can shoved down over the top of the glass, and in the side of this tin portion is a hole through which the bees carry the wax down through the board into the hive. One of the other cans standing upright has water in it and the other is used to feed syrup when you wish to stimulate or build up a weak colony.

Sometimes the cans are placed on an inside cover board on top of the hive. This requires an extra super or hive body to protect the hole from the weather. When furnishing the water on top of a super the bees seem to pay little attention. They do not seem to know what to do with it. When it is placed below and when the water is placed close to the brood frames, they do something with the water because it disappears. I do not like the upper story feeding as I cannot see when the cans are empty, and all have to be removed too when one wants to examine the inside of the hive.

Another good and profitable use of this sort of water feeding is in building up package bees. I tried it out by comparing results on a one pound package with a queen beside a package of three pounds of bees with a queen, all installed the same day. The one pound package soon caught up with the other and gave one super of honey, the larger crop of the two, both receiving the same amount of syrup feeding and each hived on full sheets of foundation.

In using the feeders at the back of the hive, it is essential that the bottom board be long enough to allow the hive body to be pushed forward enough to place the feeder cans in position.

Florida.



Water in jars over holes in inner cover.

OHIO 1942 BULLETIN

This 16 page bulletin with illustrations discusses approved methods of installing package bees as well as other management phases dealing with building strong package bee colonies for the major flow.

The use of package bees to replace winter-killed colonies and the use of queenless packages to strengthen weak colonies is covered adequately.

THE CAUSES OF POOR WINTERING

A TWO-PART ARTICLE

By H. C. DADANT



Paper case, with packing and top entrance, now used widely, even in the far north.

SPRING is perhaps the most interesting period of the year to the beekeeper. Unpacking time is at hand and plans for the coming season are about to be put into motion. A study of the condition of colonies emerging from winter should reveal the reasons for poor wintering and the factors contributing to good wintering. In order to facilitate proper study of the reasons for failure of the colonies that do not survive the winter properly, a colony and yard record made the previous year should be at hand when the bees are unpacked in spring.

Records need not be kept in great detail nor be burdensome. Brief colony records are commonly kept on one side or the back of each hive with indelible pencil or keel, where they may be readily seen as the beekeeper passes along the rows back of the hives. The following information is of value and readily recorded: (1) origin, age, or date of introduction of the queen, including super-seedures; (2) her egg laying record whether fair, good, or excellent including regularity of brood pattern; (3) honey crop record; (4) supply of honey and pollen, weight of colony in fall and quantities fed; (5) condition of combs including marks on the ones to be removed whether they are damaged or contain excessive drone areas; (6) other facts concerning the colony that may be of value throughout the year, such as bad temper, unusual burr comb building, robbing, and swarming tendencies, susceptibility to disease, etc; (7) the quantity of bees or combs of brood used as nuclei or for strengthening other colonies should be credited to the colony furnishing them in estimating its value. Likewise help received by colonies below average strength should be shown on their record. The brief records suggested should be continued. Absence of record for a time assumes that the colony is proceeding normally in its desired seasonal development. A consolidated bee yard record is usually also kept by the successful honey producer.

The summary of colony records of

each yard in spring, at the end of the season, or occasionally during the year may reveal that some yards are more profitable than others, and why. A comparison of the colonies of one yard with those of another in spring may disclose the reason for greater losses in one location than in another nearby.

Inspection of all colonies at the time the last supers are removed in the fall or at a later date should reveal those probably unfit for survival of winter. It is hardly necessary to state that weak and queenless colonies, especially those consisting mostly of old bees and drones should not be wintered. They should be destroyed in fall, the hives closed tightly to protect combs and kept dry for use the following year. Two or three colonies of three or four frame strength each, may be united, using the queen which appears to be most suitable to head the colony the following spring.

The common practice is to shake the bees of the weaker colonies frame after frame in front of those chosen to be wintered. This is most conveniently done on a cool day when most of the bees are on the combs and brood no longer exists. Colonies with an uneven pattern of brood should be requeened with good stock preferably before the end of the fall flow or marked to be united since they will be poor colonies in the spring if they do survive the winter. Colonies diseased with American foul-brood should always be destroyed when found and certainly never packed for winter. In fact, strong, healthy colonies with a good crop record, headed by a fairly young queen and possessing a large force of young bees when brood rearing stops in the fall are most desirable for wintering.

Colonies in long winter confinement should have ample stores of honey above the cluster when winter sets in, since it has been learned that the cluster will move slowly upward to food above them as winter progresses while honey at the sides remains untouched. The

bees may be found starved in a cluster with honey beyond their reach at one side of the hive. Should a flight occur during the winter the bees then have an opportunity to re-cluster in another place where ample stores may be had. The brood nests of large hives should, therefore, be heavily provided with honey or sugar syrup. In case this is not done, a full extracting super of honey should be left over them. The smaller or 10-frame Langstroth size hives should be provided with at least a shallow super of honey, but preferably with a full depth body containing much honey. The honey for winter stores should be of good quality and sealed, since unsealed honey may absorb moisture during the period before it is needed. Consumption of thin honey will promote dysentery of bees in long confinement. Likewise poor quality sweets, such as honeydew or stored fruit juice, are very harmful for winter and should be extracted and replaced with good honey or sugar syrup fed after the honeyflows are over.

A yard that comes through the winter in poor condition requires an unusual amount of attention and expense in spring which reflects directly on its net returns. The condition known as spring dwindling of bees occurs mainly from lack of honey and pollen aside from the weakening effects sometimes caused by disease. While lack of honey or sugar syrup causes starvation of brood and bees, a shortage of either pollen or honey in spring will stop brood rearing.

Very strong colonies are of much value in early spring when it is desired to draw nuclei or package bees from them. However, heavy, very early brood rearing continued until the honeyflow of June requires an unjustified quantity of honey and pollen, unless the beekeeper plans to make proper use of a surplus supply of bees and brood and knows how to meet the early swarming problem. The economic importance of strong colonies in spring is not so apparent in the case of apiaries located in very favorable spring locations, and providing

the colonies are headed by good queens.

Ample feeding in early spring is not always possible due to impassable roads to outapiaries. However, the rearing of young bees must not be interrupted in order that the colonies may attain great strength for the principal honeyflow that usually begins in June. Pollen and honey are vital to brood rearing; and since suitable supplies of them are frequently not available from the fields in early spring, the storage of an ample fall supply should be encouraged. This may be accomplished by affording the bees a large brood nest in summer and fall and supplying ample supers for the honeyflow. Much pollen may be stored in the brood nest after the last honeyflow is over. Methods of feeding sugar syrup are commonly practiced but an artificial supply of pollen for colonies in spring has been given little attention. Beekeepers in some localities of ample natural pollen have complained of brood nests over-supplied or clogged with pollen while in other localities there is a marked shortage of pollen from the fields. Combs of pollen stored over winter in a very dry place should be suitable for bees in spring but pollen left in the hives, if exposed to dampness, may become unfit for use, and bees have been seen removing it from the hives. The methods of preparing and feeding pollen substitutes recently devised by Dr. M. K. Haydak at the University Farm, St. Paul, Minnesota, and by Dr. C. L. Farrar, United States Bee Culture Laboratory, Madison, Wisconsin, deserve much consideration. The study of the pollen problem should be continued until suitable and economical methods of supply are found.

A colony may be classed as having wintered well when it shows a good revival from the shock of winter. An occasional dead or seriously weakened colony in spring can usually be attributed to factors affecting the unit itself. Large or wholesale losses in a yard are caused by conditions affecting numbers and must be studied from that viewpoint.

A further discussion of spring management problems cannot be included under this subject of wintering. It is true, however, that a full consideration of spring operations must be kept in mind when planning for colonies to emerge in good condition from the winter period.

Winters vary to a marked degree. Mild weather continuing into late fall or winter will result in excessive consumption of honey before winter weather actually sets in. Much brood rearing may occur in December or early January which is considered too early as brood rearing in the central zone should begin in February and

continue steadily. Colonies survive under this condition, however, if heavily supplied with honey and pollen. A sudden cold wave of weather following a mild period causes some of the bees to become chilled before they can reach the main cluster. Quite a number may be found dead at the entrance of the hive a few days later. Frequent high winds during cold weather are also detrimental to the welfare of bees. A long continued period of cold of four weeks or more also prevents a needed flight of young and old bees to void their feces. A late cold spring adversely affects development of colonies preparing for summer and requires large supplies of food, both pollen and honey, that may not be available from the fields. The ideal winter is one that is not intensely cold nor mild, yet provides one flight about every three weeks.

Colonies which have survived a very poor summer honeyflow may be found below medium strength in the fall or with only four to five frames of bees although headed by good queens. Good, light colonies of this type may be wintered in a cool, dark, ventilated cellar and will consume only ten to fifteen pounds of stores providing the temperature is kept uniformly at 40 to 45° F. We cellared a yard in this condition during the winter of 1906-07 and they came through to spring with but little loss. The cellar should not be too crowded with bees in order that the temperature may not rise too high. Cellar wintering is not successful in mild climates where the cellar cannot be kept cool enough. Bees are wintered in cellars successfully by a number of beekeepers in the northern states.

The depredation of rodents, skunks and bears causes serious losses occasionally and disturbs the cluster. Mice or rats may gnaw their way into the hive and destroy some comb. Skunks scratch at the entrance and have been known to devour most of the bees as they appeared at the entrance. Bears do a wholesale job by turning the hive over and destroying the colony. Livestock should be kept out of the yard although grazing sheep cause little trouble.

The climate of the countries of fairly high elevation which afford a comparatively dry atmosphere throughout the winter has proved to be quite suitable for wintering bees successfully. In fact, competent beekeepers of Colorado, Nebraska, etc., at altitudes of about 2500 to 6000 feet, winter successfully without packing. They shelter apiaries from the coldest winds and provide a little top ventilation or moisture absorbents above the bees. The north Atlantic states as a whole are cold climates for bees. Bees in colder countries

survive best with ample winter packing.

The southern limit of the northern zone of the Mississippi Valley is approximately defined by the 42° of latitude. This cannot be named a sharp line of demarcation, but heavy packing for winter becomes increasingly important north of central Iowa and the northern parts of the states of Illinois, Indiana and Ohio. There are some localities among them possessing a moderated climate such as south of the Great Lakes.

Little or no packing is done in the southern zone or south of the Ohio River, although some winter packing would conserve stores of honey and be of value as insulation to the brood in adverse spring weather. As we move northward from the Ohio River to the 42° latitude, the central zone, we find windbreak and packing is increasingly needed. The absence of winter packing in the northern part of this region is not to be recommended. In case no packing is done, however, windbreak and ample supply of honey and pollen must be provided. Even then a heavy loss of bees may occur if cold periods of four weeks or more prevail.

There is no doubt that one of the most important points in winter packing is thorough provision to eliminate humidity from inside the hive especially above the cluster. The tendency for moisture to accumulate above the cluster and its detrimental effect is well known. Humidity originates both from the water content of honey consumed by the bees and the normal moisture content in the air. A high humidity, if not dispelled by suitable ventilation or a very strong, warm bee cluster, results in condensation to water of the moisture of the air on cold surfaces inside the hive. The condensation may in turn become frost or ice over and even down into the cluster of bees and on the inside walls of the hive. The common practice of packing with absorbent material by means of chaff trays, leaves, straw, etc., above the bees has proved effective. During long confinement of bees, however, the material may become damp. The packing should be kept dry by means of some ventilation. Although cracks about the hive cover may sometimes be sufficient they cannot always be depended upon.

(To be Continued)

EPITAPH

A thousand ways cut short our days,
None are exempt from death.
A honeybee, by stinging me,
Did stop my mortal breath.

—"Willy," in the Hudson Star-Observer
(By Kenneth Hawkins)

THE PACKAGE THAT PLEASES

By CARL M. TEASLEY

Down the chute, for a northern honey crop, perfect team work between two groups in one agricultural business.

IT is a well-known fact among the buyers of package bees that every package does not please the rounded expectations of the purchaser. And unless some just reason is plain for the failure to please to a minimum there is either a change of package shippers or a pent-up amount of hard feelings. All beemen want their money's worth. Mutual understanding and full co-operation between shipper and receiver to the best of both abilities has resulted in the working out of most all details outside of exceptions in the change made from a colony in the South to a colony elsewhere.

The package that doesn't please has a traceable reason or reasons. Supersedures, dwindling, slow build-up, small crops; these have answers. Concern for answers occupy several agencies in relation to agriculture in the United States. The accounts given in the journals of groundwork and practical work of entomologists and amateurs interested in the problems of package bees will make a complete book of knowledge when fitted together. Time will tell all things.

Robert Knutson voiced in the A. B. J. for July, 1940, the probable plea of every purchaser of package bees that has ever had a late shipment of packages. His suggestions were more than hints, too. Punctuality of delivery in full quantity has much to do with pleasing the purchaser of the package. Unexplained delay should have its recompense to the purchaser only.

What composes the package that pleases? Some complaints come in to southern shippers about the weight of the bees in the package. Others rant about queens (dry caged, clipped ones are best to some, queens loose for others). The number of punched holes in the feeder can, and size of the can, is commented on by some, and suggestions made about a thin cloth over the holes or some such thing. Size even of the package itself, with or without a clustering strip, is of consideration. And various

minor and major details. Normally then, with a leeway to exception, let's speak plain.

The package that pleases will contain at both the sending and receiving end an amount of worker bees sufficient to show that it is overweight. I will not give a set weight for the sending end but from two to four ounces should show on the receiving end.

The package that pleases will contain a queen bee that, reared as near normally as possible, will prove herself in 36 days' time to be of pure strain, reasonably reproductive, and her progeny to be gentle and aggressive.

The package that pleases will contain a reasonable amount of young bees. I like the advertisement of a certain southern shipper that says: "75 per cent baby bees; the rest teachers."

The package that pleases will not contain worker bees that have been crossed with hornets somewhere back in their ancestry.

The package that pleases will build up to reasonable working strength within 32 to 48 days after being installed in the hive. This will be in proportion to the poundage of the package and the amount of artificial and prepared helps given.

The package that pleases will be the start towards a colony of bees that gathers a justifiable crop of honey. Actions mean more to most beekeepers than color or size or ancestry.

Cost of the package that pleases is to be reckoned in a way mentioned before: Beekeepers want what they pay for. The buyer usually knows the costs of the production of a package and what it contains, and is sensibly willing to pay a set amount with no bickering.

Seven things then make up the package that pleases. Goodwill, return orders, profit, and contentment naturally follow.

Tennessee.



WATER CONTENT OF HONEY

The Guest Editorial in February appears a repeated item. In its essence, it says, "If you buy 12½ pounds of syrup and remove 7½ pounds of water, it will then be the same density as honey."

Consider honey to have a water content of 17 per cent. Twelve and a half pounds of syrup with 7½ pounds of water removed weigh 5 pounds. Seventeen per cent of 5 pound is 0.85 pounds. Therefore, 5 pounds of syrup of 17 per cent moisture content will contain 0.85 pounds of water.

In order to find the original percentage of water in the syrup, add 7½ to 0.85 and you will have 8.35 pounds of water in 12½ pounds of syrup, or water content of 66.8 per cent.

Just what kind of syrup is meant is not stated, but according to Canadian standards, maple syrup may not contain more than 35 per cent of water, and corn syrup usually does not contain more than 25 per cent. Based on the certified analysis of one company's product, 12½ pounds of syrup would only lose 0.68 pounds of water in being reduced to the average consistency of honey.

Obviously the original of this editorial was accepted without question and this is only intended to show how misleading the statement is. It is the general opinion that this comparison is bad. Honey has sufficient virtues and does not have to be compared with syrups. The general public should be led to think of honey in a class by itself, not associated with manufactured products.

W. A. Stephen, Assistant,
Apiary Products,
Department of Agri.
Ottawa.



A colony that has swarmed and returned, ideal to prepare for cell building.

SWARM CONTROL AND QUEEN REARING

By CARL E. KILLION

NOW we come to the crossroads of comb honey production, where the beekeeper must choose the right way to successful crops or the one that leads to a dismal failure. Many more beekeepers would be producing comb honey if it were not for that giant who stands blocking the highway called "Swarm Control."

More people have asked about swarm control in comb honey production than all other questions together. Swarming has prevented more beekeepers from producing comb honey than all other hazards. In all my life, I have only known one comb honey producer that could smile at swarming, a smile of welcome at a good swarming season not because he was out of his head or overconfident, but just because he had an honest conviction of the true facts about swarming.

Volumes have been written about swarming, the cause, breeding for non-swarming and swarm control. Why has the swarming of bees been so despised? Is it because of its mystery? Perhaps because man cannot fathom it, he wishes to condemn it. I do not wish to be egotistical, but I say I welcome swarming, and yet, I breed as much as possible from bees the least inclined to swarm. Swarming is nature's glory road of reproduction, new worlds to conquer, a chance to perpetuate a noble kind, a type of frenzied fever, here today, tomorrow, and perhaps forever.

With swarming comes the finest conditions possible for rearing select queens. What price queen breeders would pay to have the secret of keeping their colonies in a swarming impulse throughout the entire cell building season! To build cells throughout the entire season the queen breeder must create an artificial condition through necessity.

For the honey producer who wishes to raise his own queens under the swarming impulse, the resulting stock is sure to be the finest he can get.

There are two main purposes in swarm control. One is actually to control the swarm, and the other is to maintain the colony morale. Maintaining colony morale is just as important as any other single item in honey production.

A systematic examination of brood chambers shows the first inclination

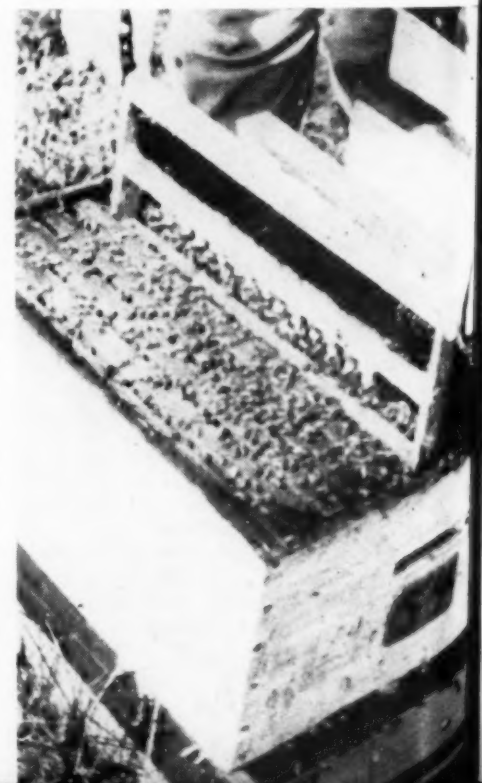
of swarm preparation when cells are built. The bees do not start the cells in a business like way. They may destroy the first one. An examination a few days later shows swarming getting under way and we proceed to practice queen rearing and swarm control in a single operation.

The first colony we examine may have just been approaching swarming and has only a few eggs in queen cells. We pass this colony, leaving it just as it is and go to the next. Here preparations are well along with from ten to twenty nice cells started. These are removed. They are to furnish us the royal jelly for grafting.

After making sure we have found all the cells, we make sure the **queen is present, as no grafting is done to a queenless colony.** One outside comb is removed from the hive and the bees are shaken off at the entrance. If it contains brood, some bees are left with it, and the comb is placed in an empty body and numbered to correspond to the colony from which it came, since later it will be returned.

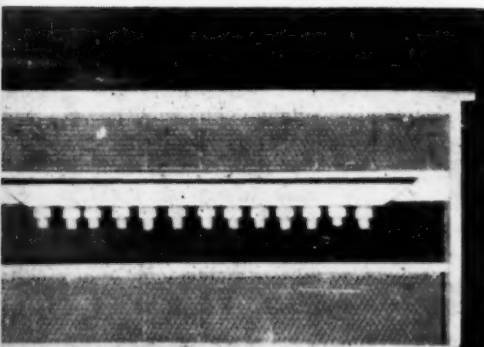
The colony we are working then has its remaining combs equally divided, four on each side, leaving a space in the center for our cell frames. Supers that were on the colony can be left

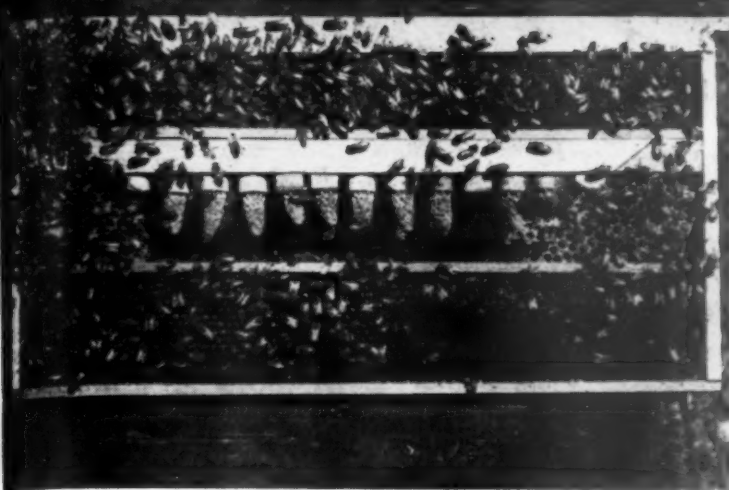
Lowering grafted cells into prepared colony.



Colony prepared to receive bar of grafted cells.

Special frame to hold bar of cells.





A bar of finished cells.



Cell cradle for carrying cells to where they are to be used.

off during the next few moments but the cover is put on.

Now to our breeding colony for larvae. If this breeding colony is examined first, all combs with the proper size of larvae can be marked for quick removal. The cell bar holding twelve to fourteen cell cups is placed where the cups can be primed with royal jelly from the cells of the colony we are working with. In most cases this jelly will be about the right consistency. If not, it should be thinned enough to flatten out in the base of the cell. The amount of jelly in each cell should be about the size of an ordinary match head. After the cells are prepared with jelly, the larvae are carefully transferred from the brood comb to each cell, placing the larvae as near the center of the jelly as possible.

Very small larvae are used, smaller yet than the lead used in an ordinary eversharp pencil. Try to keep the size of the larvae as uniform as possible. As soon as the grafting is over, the cell bar is placed in the special frame and given to the colony which was prepared for it. The cover is taken off exposing the opening made between the combs. It appears as if there were no opening, since it is filled with a cluster of bees; some are wax workers, others are nurse bees gorged to their fullest with food for the cells we are giving, as nearly as perfect a swarming condition as before, and now they also have queen cells again, cells to build under the swarming impulse, but, not from prolific swarmers. Instead, from our finest breeding stock. Instead of twenty to fifty cells, they have twelve to fourteen, and do they give them their attention!

Each day this grafting is done providing an unlimited supply of cells for use. In examining colonies for swarm control, you find that not all will do for cell building. A glimpse of a colony's cells will give you a clue as to the quality of cells it may build.

Let us suppose that in a certain yard the grafting is done on June 2, and since the cells must be removed from the colony ten days after grafting, or on June 12, we must wait until at least June 3 before we start killing queens in our swarm control plan.

On the 3rd when we are sure of our supply of cells, every colony in the apiary to be requeened is dequeened. Most of these colonies will have queen cells in different stages. Some may have sealed queen cells. First the queen and all sealed queen cells in every colony are killed, leaving some unsealed cells. Killing the queen and all the cells will cause the colony to lose some of its morale, but the unsealed ones which are left act as a balance. We always practice leaving those with real young larvae.

We may again go through the colony before June 12 and kill all the oldest looking cells, but on the 12th we must go through the colony and destroy every one of their queen cells. I say every one and I mean every one.

Then one of those grafted cells is given the colony. The reason for killing the queen on the 3rd is to allow the sealing of nearly all worker brood before this grafted cell emerges. In excessive swarming years if we fail to wait this long, the bees many times enlarge a work cell, even though the larvae is far too old. They deposit a little royal jelly in with the larvae, clasp our fine virgin by the hand and dance out to parts unknown, leaving us a worthless scrub.

In looking for queen cells if there are very many bees on the combs, it is easy to overlook them. Therefore, combs are shaken lightly to remove most of the bees. This is not a quick shake but more of a trembling motion as a sudden jerk would throw out too much fresh nectar.

This system of swarm control does not call for a world of extra equipment. Swarming is controlled, colonies are requeened, and storing continues. Storing does not continue

with the same rapidity as in a queen-right colony, but sacrifices have to be made somewhere in swarm control and this to me proves to be the least costly. Another thing, those queens reared under this system are tops. They stand up under production.

GOLDEN ANNUAL SWEET CLOVER

Grain and Feed Journals, December 10: Work at the Iowa Experiment Station has shown that golden annual sweet clover, sold in Iowa, is not of the same species as the common yellow varieties. It belongs to the species *Melilotus suaveolens*. Golden annual will not cross with the common yellow sweet clover but will cross with Hubam, a common white variety. (Daily Digest, December 19, 1941.)

SECTIONS ARE THEIR OWN CONTAINERS

In the last war when there was an excuse for it because of export shipments of honey, the advice urging the production of extracted honey at the expense of comb honey almost killed section comb honey. It has never gotten back to its former place.

Since, however, we are apt to face a scarcity of containers, it must be remembered that sections are their own containers. I have no doubt but that before this war is over we will have no tin containers for honey. Even now, glass is available with difficulty since the caps are not so easy to manufacture.

So, this is the time to urge the production of section comb honey in all places where honey is mostly sold locally, and where fairly heavy honey-flows are the rule.

Kenneth Hawkins,
Wisconsin.

OUT GOES THE OLD BOX

A picture story from "Beekeeping,"
Bulletin 82, Georgia Department of
Entomology, Atlanta, Georgia, written
by Milledge Murphy, Jr.



With frame hive all set up ready to go, the bees in the entrance of the box hive are smoked well.



The bees from the box hive are driven from it by smoking and drumming.



A piece of cardboard helps drive the bees to their new home.



The bees are pushed and teased into the entrance of the new hive.



The old box is split lengthwise so the combs may be removed.



Full lengths of the brood comb are cut out to be used in the new hive.



Two combs with honey, pollen and sealed brood, at least, should be selected to be used in the new hive.



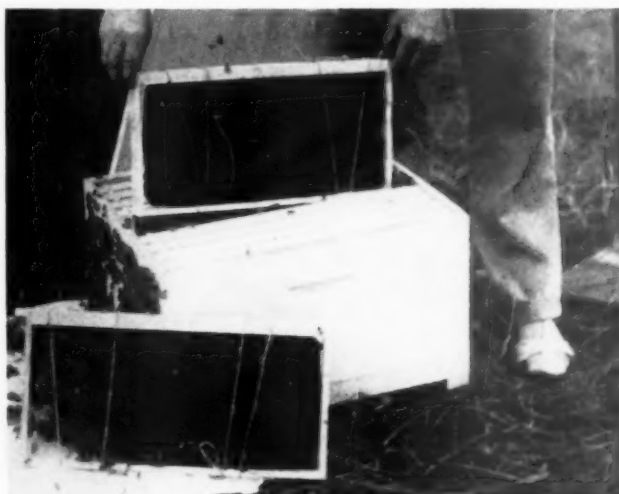
Straw makes a good bee brush; even leaves or weeds will do. Brush the bees in front.



Cut the selected brood comb to fit inside the frames of the new hive.



With string or rubber bands, raffia or other good material, tie the combs in place in the frames.



The two or more combs of old brood, pollen and honey are placed in the center of the new hive. And the job is done. The remaining combs may be rendered and the bees jarred out in front. To save



the remaining brood put it in an empty shell over the inner cover of the new hive with the center (or escape hole) open, until brood has emerged.



EDITORIAL

WAR COMES HOME

JAMES DADANT, youngest member of our editorial staff, is now in the army. Gladstone Jr., son of Editor Cale, is likewise in uniform and we, like many among our readers, feel that the war is coming very close to us. War is grim business and it is but a poor recommendation for our so-called civilization that no better means of settling international disputes have been found. We select the best of our young manhood and send them out to fight over difficulties for which they were in no way responsible. We dissipate the resources which have been accumulated by generations of toil and thrift in an effort to overcome our adversaries.

Many among us had hoped that it would be possible to avoid another such conflict, but now that it has come we have no choice but to see it through. Perhaps there may be compensations and out of turmoil some good may result. Mr. Churchill in his address to congress indicated that some great purpose must be working out and others have pointed out that most great forward movements have originated in tragic events.

It is to be hoped that we as a people will forego personal advantage and forget personal privilege and physical comfort. If as a nation we devote ourselves unselfishly to the production of the needed equipment to enable our boys to do the job to which we have assigned them, it will soon be over and they can return home again. When the war is over if we as a nation make an unselfish effort toward rebuilding the social structure on a basis of international goodwill with equal opportunity to all classes and all peoples, perhaps we may avoid the necessity of another similar struggle for our grandchildren.

If the folks at home do as good a job as the boys in uniform we can look forward to a better world in which to live.

TIME TO WAKE UP

IT seems impossible for the average American to realize fully that we are really at war. In view

of the manner in which each group is struggling to secure some advantage for itself, one can only believe that there is no understanding of the situation. We have only to look at Europe and see what happened in Poland, in Holland, in Belgium, in France and other countries to see what we may lose if we fail in the present effort.

Farmers are demanding prices above parity, labor is demanding higher wages, congress has opened the grab bag and the grab is on. It is recorded that Emperor Nero fiddled while Rome burned but, if so, he has nothing on us.

We will do well to look to our own glass house before we throw too many stones. Let everybody get down to business and do what he can to win the war. By all means let us have a ceiling on prices of farm products and on wages as well. Let us be satisfied with a price which bears a fair relationship to others. At the same time let us turn out every possible ounce of food and munitions and provide the support that our boys need to do the job we are sending them out to do. America is at war. Let us not make the common mistake of "too little and too late."

TREND OF THE TIMES

IT is interesting to note that the new bulletins on the control of the corn borer place particular emphasis on the use of resistant strains of corn. Millions of dollars have been spent in the search of control for this insect but little has been accomplished by old time methods. The best that entomologists have to offer is clean culture and resistant plants.

More and more are the authorities turning to disease resistant stock as a means of dealing with plant diseases and now plants which are resistant to insect attack are recognized as the best means of meeting the insect menace.

The breeding of a disease resistant strain offers great promise that American foulbrood will soon cease to be a serious problem to the beekeeper. Nature has a way of protecting herself against diseases by building up resistance. By making

increase from the individuals that have shown this tendency we can expect to make substantial progress.

THE AMATEUR INTEREST

ANY group which is making substantial progress will be found to have either a large advertising fund or an enthusiastic amateur element. When beekeeping attracted the interest of large numbers of professional people who found relaxation and entertainment with the bees, progress was rapid. Not only did they contribute to the development of equipment and methods of manipulation but they constantly kept alive a public interest by their own enthusiasm.

The same thing was true of many similar agricultural lines. The enthusiast raised seedling fruit trees by hundreds in the hope of finding a valuable new variety. Orchards were planted not for commercial profit but for testing great numbers of different fruits as bees were more often kept for the interest in bees than for the sale of honey.

The commercial era of mass production that followed the first world war changed all this. Research was placed in the hands of specialists in well equipped experiment stations and the amateur turned his attention to golf. Those lines which were able to provide the heavy advertising funds prospered at the expense of those lacking such help. Official figures seem to show that apples have lost 51% of the former consumer outlets. Citrus fruits which were freely advertised captured the markets in the same way that honey lost its market to manufactured sweets. Mass production has not brought prosperity to the honey producing industry. Our big outfits have actually produced a less total volume of honey than the smaller ones which they succeeded and the smaller volume has been accompanied by lower prices.

The industry needs the well informed amateur. Neglected bees are of no value to anyone, not even their owner, but the well cared for small outfit is often the source of stimulation of public interest which is unequalled.

ANCIENT BEEKEEPING

AT times one wonders whether after all we are so far ahead of the ancients. In spite of improved mechanical equipment, we can learn much

from them. In ancient Italy there lived a farmer named Varro, who before the birth of Christ wrote a book on farming that in its translations is read to this day.

In this book is told the story of two brothers named Veianius who were prosperous beekeepers and of them it is said, "They were always willing to wait, so as to interview the buyer at a favorable moment, and were in no hurry to sell when times were bad."

If only our present day beemen would follow this ancient example how much more prosperous our industry might be. The great anxiety on the part of so many to dispose of their product quickly, and the apparent willingness to reduce the price to insure a prompt sale, is largely responsible for the low price of honey.

Of these prosperous brothers it is further told, "They set up beehives all around the building, kept a garden, and sowed all the rest of their land with thyme and cytissus and apiastrum—a plant called by some, honey-leaf." Thus it appears that beekeepers of two thousand years ago did provide their own bee pasture by sowing their land with plants which were known to yield nectar and pollen abundantly.

Alfalfa is among the plants mentioned by this writer of the long ago to be planted by the beekeeper although thyme is stated to be the best for honey making.

NOW IS THE TIME

THIS is the time for every beekeeper to put bees in every available hive, to repair every piece of unused equipment and to go all out in the production of every possible pound of honey. Prices will be higher than for several years and a hungry world needs food. We must produce regardless of profit but profit seems assured for the duration of the war.

At the same time we approve of the advice of the Beekeeping Council and their caution against hasty and unwise expansion. It is not the time to assume obligations beyond the ability to meet within a short period of time. We should not forget the lessons of the last world war but should remember that for every action there is a corresponding reaction; that what goes up must come down and that the plunger is likely to get hurt.

POLLEN IN THE NORTH

Apparently there is a difference in the amount of pollen supply in the North and South and it seems that the farther north you go the more plentiful the supply of pollen.

Twenty-five per cent of our brood combs are filled with old pollen each year at the time the new pollen starts coming in, and if a hive is queenless for awhile every empty worker cell in every brood comb will be filled with pollen. Some beekeepers soak these pollen filled combs in water for several days, then run them through the extractor. In this way a large amount of the pollen is removed and the bees clean out the rest. Others shave the combs down almost to the midrib. The bees remove the balance of the pollen and again draw the combs out. But a large number of beekeepers, especially the larger ones, write them off as not worth the trouble of cleaning.

The beekeepers who kill their bees each fall and buy packages in the spring are especially troubled with these pollen filled combs, as by this method no reserve supply of pollen is needed for brood rearing in early spring.

About five years ago there was quite a lot of discussion in the bee journals about storing up a reserve of pollen for the lean years. (Unfortunately, or otherwise, there are no lean years up here as far as pollen is concerned.) At that time I shaved down quite a number of pollen filled combs, gathered up the pollen, added water to it, and boiled it for several hours. As pollen contains quite a lot of honey and is a solid, the temperature would go well above boiling point, thus insuring it against disease.

After boiling I placed this pollen in four four-pound honey cans, putting them on a shelf in the cellar and forgot about them. A few days ago when rummaging through the cellar I found these cans of pollen, and while some of the cans had rusted and some had small holes in them, the pollen still smelled and looked the same as when fresh. Apparently it will keep indefinitely when put up in this way. It has about the same consistency as jam, and could be spread in the same way. Thus it would be a simple matter to spread the pollen over an old brood comb and force it into the cells so it would be quite easy to feed to the bees.

Judging by what I have seen, read, and heard I am sure that hundreds of pounds of pollen could be gathered by the members of the different co-operative honey packers in the prairie provinces of Canada, delivered to their central packing plants where it could be boiled and put into cans for market.

I understand that in some parts of

the South there is a definite shortage of pollen during certain periods each year, and if this is the case, I have little doubt that some dealer in the South could make arrangements to obtain large quantities of it, providing the price was sufficiently attractive to make it worth while.

W. H. McMullen,
British Columbia.

REQUIREMENTS FOR A GOOD BEEKEEPER

A. G. Woodman once asked what the requirements are for a good beekeeper. Is it permissible to give my views on this interesting subject? Well here goes! A really good beekeeper handles his bees as he would have his bees handle him, which is carefully and gently. The latter requisite is really most essential since I have seen and had plenty of experience with both the "slap bang" kind and the gentle way, and have found best success is obtained by the latter. I thought this was most important, hence my mentioning it first.

A good beekeeper has a honey house that is clean and keeps his honey that way too. He has to be a fairly good carpenter, painter, and also know something about book-keeping. He should take an absorbing interest in his bees and enjoy talking "shop," and above all a good beekeeper really uses his product and talks others into using it too. He helps the institute when and if he can besides the association to which he belongs.

And, since I consider myself a fairly good beekeeper, I keep my stock of bees up by using the very best material on hand in the line of good queens, etc.

My father taught me all I know about bees and how to care for them without fear. He was a wonderful man and beekeeper and I surely miss him, more than words can say, but I'm carrying on with my bees, as he would do.

Mrs. Ruth Tucker,
Ohio.

MINNESOTA

Our bees up in Northwest Minnesota were packed early and in very good shape. Iowa bees were packed in late December, except 200 colonies or so after the cold spell of the first ten days of January. These ten days I was stranded in Iowa with weather too cold (10, 20 and 30 degrees below zero with snow and wind galore), yes, too cold to pack. Bees did not suffer

at all as yards got drifted over pretty much at the set in of this period. Three to four foot drifts and when we shoveled them out to pack, several very strong colonies were clustered on the outside front wall of hives up to two pounds of bees, with full bottom entrance and also our usual top or middle entrance in place.

Our Red Wing bees suffered most with no snow protection and not having been reduced or prepared for winter, too many clusters got caught on combs without honey. This loss probably amounted to 5 per cent. A few died outright and some others weakened quite a lot, but the loss was much less than in 1940 during and following the Armistice day storm.

We have 2100 colonies packed and look for them to winter above the average for say a ten-year period.

W. B. Erickson,
Red Wing.
(2-16-42)

INSPECTION IN DUBUQUE COUNTY

Dubuque Co. (Iowa) is in the list for inspection this year. This is made possible by an appropriation by the Board of Supervisors. G. J. Dieterich is the inspector in this county.

SCORCHING EQUIPMENT

I saw an article in the February issue about foulbrood and asked about using gasoline. I wrote you last year and I tried your method with a blow torch and burned the boxes until the wood got real black. While the wood was hot I took a paint brush and turpentine and brushed it all over the inside of the boxes and then I placed the cover over the boxes right away to keep the fumes in them for about a week or two, and I haven't had foulbrood since. I believe in burning the frames and painting the wood with turpentine as it gives it a smooth finish. If this is of any help to somebody, I will be glad to have them try it as I have had success.

M. E. Vollmer,
North Dakota.

AMERICAN COOKERY

Are you familiar with American Cookery? It is a splendid publication about foods with recipes, new food ideas, and a resume of the interesting food news of the world. It is Amer-

ica's oldest cooking magazine, established in 1895, and was formerly The Boston Cooking-School Magazine.

American Cookery is a division of Yankee, Inc., and "Yankee" is a publication of merit about New England. The Yankee Magazine also publishes The Old Farmer's Almanac. Address for all three, 35 Fayette, Boston, Massachusetts.

American Cookery is published ten times a year, the first of each month, except July and September. The issues of June and July and August and September are double numbers. In the November issue, 1941, is a presentable item about honey under the title, "Make a Beeline to the Honey-Pot," containing sixteen honey recipes and directions for the substitution of honey for sugar.

SPECIALIZING IN HONEY FLAVORS

Why not differentiate the types of honey and label them accordingly? Would this not make a better sale? We often hear people say, "This food is a little different. Let us try some of it." Some like different kinds of honey to compare and see which they like best.

Mrs. E. Claussen,
Illinois.

[Yes, a good idea. Several beekeepers have made a success of it. It takes honey out of the average class.—Ed.]

WINTER FENCE

Refer to page 11 of your January issue, with the same title, "Winter Fence." This is a well-made windbreak. It is in Michigan. Note where you say parenthetically that this well-made windbreak (either woven or slatted fence—not quiet clear) is in Michigan. Typographical error. No doubt it was meant "quite." I reflected about an apiary of mine, not well protected, and visions of working that yard on a windy day appeared. I saw myself leaning against the wind, opening the hives only to have the bees figuratively blown off the combs, smoke blown everywhere but the place wanted, the eggs and queens hidden from view by flapping veil, and a sneaking suspicion that premature baldness was being brought on by a hat tightly pulled on my head.

Now, in my mind, I have worked around to a sheltered spot and see myself sitting comfortably on a cover, the bees quiet on the combs, the queen walking majestically before my admiring vision, and I absently pushed the hat to the back of the

head while the smoke gently curls and drifts.

Only one word will describe the difference—how QUIET it is here. Gentlemen, you are right!

C. Bingham,
Ontario.

MANITOBA FIGURES AGAIN

The figures given by L. T. Floyd on page 24 of the January issue do not seem to me to be correct, as the Manitoba figures include all packages and queens which cleared the customs at Emerson. Now many of these shipments just pass through Manitoba on their way to other provinces. Take Saskatchewan alone, for instance, Mr. Floyd's figures are \$5,354.00 but our association by itself purchased for its members packages to the value of \$17,851.00 and queens valued at \$915.82 in April, May and June, 1941. In addition, there were the usual direct purchases by individual buyers. There are 4,820 beekeepers in Saskatchewan and 1,214 of them are members of our association.

Alex. T. Smith, Director
Saskatchewan Beekeepers
Co-op. Ass'n., Ltd.
Regina.

TENNESSEE

Bees in Tennessee will demand feeding early this year, or they will live on very narrow rations. One-third of my fifty-four colonies will be on the safe side, the others will have attention. Somehow I feel that this must be the case with a lot of beekeepers all over the South. Whether Tennessee can be used as an example for the region might be open to question, of course. My bees will be fed, I am sure, no matter what the price of sugar. Spring stimulation has never hurt the bees, or human beings either, for that matter.

Carl M. Teasley,
Medical Detachment,
South Carolina.

MINNESOTA

We have had one of the mildest winters on record and I look for strong colonies but they probably have consumed more feed than usual. They could fly freely several days in January, which probably started the brood rearing off too strong. However, we have not had any very severe

weather since so there is still plenty of brood I presume.

Melford Olson,
Red Lake Falls.
(3-2-42)

HONEY FROM FOXGLOVE

Last year was one of the poorest honey years western Washington had for many years, due to the almost failure of fireweed to produce honey.

I have around 50 colonies of bees that I keep for a hobby and study. I have ten of these colonies on my folk's farm, which has considerable new creek bottom near an abundance of foxglove groves. Last year the honeyflow started from foxglove about June 20 and lasted nearly five weeks. My bees were all working in the third hive body, being near the population peak at the end of the honeyflow. They all average seven stories high and were so blocked with honey that I was ashamed of my beekeeping for not giving them more room.

I examined many foxglove blooms during the flow and large blisters of nectar could easily be seen on the flower. A bee would get a full load from one bloom. The honey from foxglove is of very good flavor and has a golden color and a very high lustre when bottled.

Orvil R. Bassett,
Washington.

[It is from the dried leaves of foxglove that digitalis, a powerful drug much used in medicine is secured. Now that war has cut off foreign sources of supply its cultivation might be profitable in this country. The demand is fairly constant. The plant seems to be at its best in the Pacific Northwest from British Columbia to Oregon but it has run wild in some areas in West Virginia also.—FCP.]

QUICK FREEZING OF EGGS IN HOME

Electricity on the Farm, January: Locker-plant patrons may store eggs in their lockers during the heavy laying season, experiments at the Oregon School of Home Economics indicate. As successful procedure for small-scale freezing of eggs, as well as experiments with use of frozen eggs in cooking, has been carried out at Oregon State College. Experiments show that the addition of a small amount of honey to the eggs before freezing is the most effective treatment, though salt, sugar, or corn syrup may be used.

(Daily Digest, January 22, 1942.)

ONE WAY TO MEET THE PROBLEM OF SUPERSEDURE IN PACKAGE COLONIES

By PERCY H. WRIGHT

In the spring of 1939 I ordered four packages of bees. Of these, one superseded its queen soon after arrival, and, as I doubted whether I could reorder a queen from the South and have her arrive quickly enough, I united the queenless colony with one of the other three. Later I removed a frame or two of brood from the strong colony and gave them to the remaining two. In the fall, the three colonies all yielded approximately the same, nearly 250 pounds. My moving of the frames of brood made it difficult to estimate how much advantage the colony which received two extra pounds of bees had secured from its extra strength, but I felt that the advantage was very little, and was dissatisfied with my management from this one aspect.

In the spring of 1940 I laid my plans more carefully, for I had heard that a supersedure of 25 per cent was one of not uncommon occurrence, and regarded it as a handicap too great to be let alone. With fifty colonies I ordered ten extra queens, and ten extra pounds of bees. The extra bees came as ten colonies of three pounds in place of the customary two pounds, and hence arrived with my original shipment. The extra queens, however, came by mail, and for reasons unknown arrived three days later. This upset my plans somewhat, but I did succeed in making ten small nuclei to serve as stand-bys. These were to be united with any colony which lost its queen. I assumed that the presence of a certain number of bees to whom the queen was already familiar would protect her from attack to some extent at least, and so aid in requeening the colony without mishap.

Only one of the nuclei was used for the purpose for which they had been started. Nevertheless, I considered that the experiment had been well worth-while, for, of the remainder, one built itself up to almost a full size colony, and gave a good surplus of honey, while others reached a strength by fall that justified putting them away in the bee cellar for winter. Several simply dwindled away, probably because they had received too few bees in the first place, and one was driven out by ants. The delay in the arrival of the extra queens had made it difficult to give

bees to them from colonies which had already gained a few days' free flight.

In 1940 I should have followed up the experiment by repeating it under conditions that insured that it had a fair test. However, I was very busy with other matters, and rather short of money, and therefore decided to leave further experimenting until a later time. In addition to the colonies which wintered over, I ordered 21 colonies for delivery in May, 1940. On account of the severe conditions in the package bee country during the winter of 1939-40, the amount of supersedure in package bees was said to have been unusually large. Mine were ordered to arrive late, and in fact came still a week later than ordered. This late arrival must have been a good thing from the standpoint of supersedure, for I certainly had good bees. There was not one supersedure, and the colonies built up well in spite of late arrival and cold spring weather. My results for 1940 were thus due to good luck rather than to good management.

Hereafter I intend to return to my original scheme, for I know of no other plan that appeals to me half as much. If any nuclei remain over after I have used all I need for making replacements of lost queens, I think I can build them up rapidly by adding brood and bees from wintered-over colonies that would probably be too strong anyway to be left full strength.

Saskatchewan.

MAKING WAX FROM CAPPINGS

Until the last few years I have always used the wax press in making wax. I have an old steam press, but use it little now to make wax from cappings, and I get a better grade of wax with less work than when I use the press altogether.

The past four seasons I have used a Brand melter. I run the wax level low until the middle of the afternoon when I raise it to melt as much as possible. Only a little wax will run through the outlet. When I quit work

for the day, I raise the steam coils from the liquid wax. Before starting work, I remove the wax from the melter, cutting the cappings from the bottoms of the chunks of wax. These pieces of wax are placed in a large receptacle where they drain and remain until I am ready to make wax.

I do not reheat the wax in the melter each succeeding day because I get my steam from a pressure cooker and have no steam to spare. Slumgum accumulates in the melter and it is hard to remove sufficiently to keep from blocking the outlet, or running over with the wax, and the bees in the room get into the wax pail. I don't know the practice of removing the wax daily might be general until a large beekeeper told me he did the same thing.

When I find time, I remelt the chunks of wax in a tin tank about the size of a Dadant hive body. When enough wax has melted to fill a 10-quart enameled pail, I dip it and pour it into the pail through a strainer cloth fastened to a frame. More wax is put into the tank and more pails filled as long as wax can be dipped.

I do not pour the honey water (brown color) into the pail, so it contains wax only. When I can no longer dip wax, I put the contents of the tank through the wax press.

This year, I made wax twice, 190 pounds and 160 pounds, and each time I had less than 5 pounds of wax go through the press. If the wax cake sticks to the pail, I pour a little hot water into a reserve pail into which I set the pail of wax. As soon as I can turn the wax cake with my hand, I tip the wax out. To try to jar the wax out only breaks the enamel. Any other receptacle will do for the wax if it is larger at the top than at the bottom, and is not made of a metal which will discolor the wax.

Ivan Whiting,
Illinois.

FIGURES FOR BRAIN TEASER

The answer to your brain teaser on page 70 in the February issue is 72 bees: square root of half (36) equals 6 that flew away; 8/9 of the original departed, 64; number left 2; total 72. Just had to work this out.

Frank Beach, Sr.
Idaho.

Seventy-two is the answer to Alfred Perings problem in the February number.

N. Lauritsen,
North Dakota.

(So what? We didn't figure it ourselves, but since both of these folks have the same answer, it must be so! —Editor.)

DEPARTMENTS



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MAGAZINE MART, Dept. BJ.
LA GRANGE, ILLINOIS

RECIPES FOR THE MONTH



Illinois Women Show Honey Cookery

This picture is from Illinois State Journal, kindly loaned us by that publication. It was in their edition November 22 and was called to our attention by Mrs. Adam Bodenschatz.

In the picture are, left to right, Mrs. A. G. Gill, Evanston, secretary

of the Illinois Honey Federation; Mrs. LeRoy M. Stockdale, Palos Park; Mrs. E. A. Meineke, Arlington Heights; Mrs. Adam Bodenschatz, Lemont, exhibitor of the above products; Mrs. C. W. Mussulman, Oreana, state fair exhibitor; and Miss Ethel Van Gilder, superintendent of state fair cooking school.

RECIPES FROM MRS. BODENSCHATZ

Honey Butter Cake

½ cup butter
½ cup light honey
½ cup sugar
1 teaspoon vanilla
2 eggs
2 cups cake flour
3 teaspoons baking powder
¼ teaspoon salt
¾ cup milk

Sift flour once before measuring. Add baking powder and salt and sift together four times. Cream butter, honey and sugar until light and fluffy or your cake will have a shaded appearance. Add vanilla. Add eggs one at a time beating thoroughly after each addition. Add sifted dry ingredients alternately with milk, starting and ending with dry ingredients. Mix well. Bake in two greased 8 inch layer pans in moderate oven 350° F. until done—30 to 35 minutes. Turn out on racks to cool.

Honey Caramel Frosting

2/3 cup brown sugar
2 tablespoons butter
2 tablespoons light honey

3 tablespoons cream
½ teaspoon vanilla

Mix brown sugar, butter, honey and cream well together. Place on stove and boil just long enough for sugar to desolve—stirring constantly. Cool slightly. Add vanilla. Add enough confectioners sugar and beat well until it is of the right consistency to spread.

Honey Plum Pudding

4 cups suet (1 pound put through food chopper)
1 ½ pound loaf of white bread cut in very small pieces
1 pound mixed fruit—same as used in fruit cake
2 pounds seedless raisins
1 pound currants
1 cup all purpose flour
2 teaspoons baking powder
2 teaspoons salt
3 teaspoons ground nutmeg
6 eggs—well beaten
4 cups light honey
Grated rind and juice of 1 lemon
½ cup unsweetened pineapple juice
1 cup milk

Sift flour once before measuring. Add baking powder, salt and nutmeg and sift together three times. Mix

ground suet, pieces of bread, mixed fruit, raisins, currants and sifted dry ingredients together. Mix well beaten eggs and honey together and pour over above mixture. Add grated rind and juice of lemon, pineapple juice and milk and mix thoroughly—this is most important. You may mix with your hands. Put in 4-9 inch greased loaf pans and press down evenly. Tie double thickness of wax paper over top. Place on wire racks over boiling water and steam for 5 hours. Remove from the steamer and take off wax paper. When cool enough to handle—15 to 20 minutes—remove from pans and set top side up on wire racks until thoroughly cooled. Wrap each loaf in cellophane paper. When ready to serve slice the amount you need and heat in a double boiler. Serve with the following sauce.

Sauce

½ cup light honey
¼ cup butter
2 tablespoons all purpose flour.
1 cup boiling water
½ teaspoon lemon flavoring

Mix honey, butter and flour well together. Pour over boiling water. Boil until thick, stirring constantly. Remove from heat. Add the lemon flavoring. Set in warm place until ready to serve. Put desired pieces of plum pudding in dishes and cover with the sauce.

Honey Brazil Nut Cookies

1 cup spray
1/3 cup light honey
1/3 cup brown sugar—firmly packed
1 teaspoon vanilla
1 egg
1¾ cups all purpose flour
½ teaspoon salt
1½ cups ground Brazil nut meats

Sift flour once before measuring. Add salt and sift together three times. Mix ground nut meats well with the flour. Cream shortening, honey and sugar together until light and fluffy. Add vanilla. Add egg and beat thoroughly. Add flour and nut mixture and mix well. Drop from teaspoon on greased cookie sheet and bake in moderate oven 350° F. until done—15 to 20 minutes. Makes 40 medium sized cookies.

Pecans may be used instead of Brazil nuts.

Honey Caramel Corn

2 c. brown sugar
¼ c. honey
1 tbsp. water

Cook until all the ingredients are melted and then add

4 tbsp. butter

Cook until it begins to burn (it has to change color, but not burn). Then add a pinch of baking soda and stir it good and pour over popped corn.

Mrs. Henry Piechowski.

Stock Bred For Resistance

Queens offered for sale are daughters of selected breeders that have been bred for resistance to American foulbrood. The mother queens have been tested officially for resistance and their colonies checked for performance.

The daughter queens are reared and mated in isolated yards supplied with an abundance of drones from queen mothers likewise bred for resistance.

The Association maintains a testing yard where sample daughter queens are tested for resistance and performance. These sample queens taken at frequent intervals are sisters of those offered for sale. This supervised testing is for the protection of the queen raiser, the Association and you.

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ALBERT G. HANN
Glen Gardner, New Jersey

MEETINGS AND EVENTS

American Honey Association

A new association was founded on
November 13 known as the American
Honey Association. The officers are
L. C. Dadant, president; T. W.
Burleson, first vice-president; R. F.
Remer, second vice-president; E. R.
Root, treasurer; and Lewis W. Parks,
executive secretary.

The staff of the American Honey
Institute is to be used for all secre-
tarial work connected with the associ-
ation. Under the leadership of the
association, the work of the National
Beekeeping Council was started. It
also provides an organization to act
for and in behalf of the honey indus-
try at any time during the emergency
period, and to provide the impetus
for support for the American Honey
Institute.



Gene Cutts, Alabama, Deputy

Gene Cutts, formerly associated
with the firm of J. M. Cutts and Sons,
of Montgomery, Alabama, has been
appointed deputy apiary inspector for
the state of Alabama. Mr. Cutts is
well qualified to do the work required
of a southern inspector. He has had
many years' experience in the queen
and package business, having worked
with his father and later taken active
charge of the business. Mr. Cutts
also worked in California for one of
the outstanding package shippers of
that state. He also spent one season
in Michigan engaged in the pro-
duction of honey, and later served as
deputy apiary inspector in New
Jersey. He has a well-rounded
knowledge of beekeeping and bee dis-
eases and should prove a valuable
addition to the Alabama inspection
force.

Middlesex County Meeting

The annual meeting of the Middle-
sex County Beekeepers' Association
will be held at 19 Everett St.,
Concord, Massachusetts, on Saturday,
April 25 at 7 P. M. This is the meet-
ing for election of officers and pay-
ment of dues for the ensuing year.
All those who cannot attend please
mail \$2 for the family membership to
Chester A. Robinson, secretary-
treasurer, 105 Horace Road, Belmont,
Massachusetts. Mrs. Chester D.
Norton, of East Holliston, will be in
charge of the supper featuring honey
baked beans and brown bread, green
salads, honey filled pies and coffee.

Mrs. Allard M. Valentine, of Arling-
ton will show natural color movies
of bees handled by our newest
member, Mr. Carl Johnson, and of
the beautiful flowers of Holland,
Michigan. Dr. Burton N. Gates,
Massachusetts chief apiary inspector
will be present.

Minnesota Association

Southeastern Beekeepers' Associ-
ation held their Annual Meeting
Feb. 26, 1942, in Wabasha, Minne-
sota, with fifty members present. All
the beekeepers present were very en-
thusiastic over the recent rise in honey
and wax prices, after the continued
low prices. Dr. M. C. Tanquary, of
St. Paul, secretary of the state associ-
ation, was the principal speaker and
gave a very interesting talk on
"Recent Developments in Beekeep-
ing." T. L. Aamodt, Assistant State
Entomologist, spoke on the "Value
of Beekeepers' Organizations."

This being the 49th year that this
organization has been in existence,
the members voted to celebrate the
50th anniversary next year, the meet-
ing to be held in Wabasha, Minne-
sota.

Peter P. Stiever, Sec'y.

Wabasha, Minnesota.

Cook-DuPage Association

The annual meeting and election
of officers of the Cook-DuPage Bee-
keepers' Association was held Febru-
ary 14. The following officers were
elected: Carl Olson, Rt. No. 2, La
Grange, president; Harry Oosting,
9521 S. Homan, Evergreen Park,
Illinois, vice-president; A. J. Smith,
Palos Park, secretary-treasurer. The
directors as follows: Guz Moze, 1015
Daton Street, Chicago, Illinois; A. G.
Gill, 2240 Asbury Street, Evanston,
Illinois; Ralph O. Klebes, Rt. No. 1,
St. Charles, Illinois.

A. J. Smith,
Secretary-treasurer.



Sams of North Carolina Passes Away

That grand old man of North Carolina beekeeping, C. L. Sams, passed away recently at his Raleigh, North Carolina home. Here was one of beekeeping's finest characters and a tower of strength in building the beekeeping of North Carolina to what it is today. Mr. Sams not only knew beekeeping, but he knew North Carolina conditions, and was able to have modern methods adopted by large numbers of box hive beekeepers who were otherwise slow to come to modern methods.

Mr. Sams was prominent in extension work in beekeeping in North Carolina during the World War of 1917-18.

Whereas, most of the extension workers in beekeeping were dropped after the critical war conditions had ended, Mr. Sams was retained in North Carolina and has remained as an extension man up until his death this winter. E. S. Prevost, of South Carolina, we believe, is now the only remaining extension man who has been continuously engaged in this work since the first World War.

Quiet and unassuming, and very slow to take part in any set program, Mr. Sams showed at his best out among the beekeepers, teaching them modern methods, and visiting with small groups and giving them the pointers in modern beekeeping.

The sincere regrets of all our staff and of all beekeepers who knew Mr. Sams I know can be expressed to his family in his death.

Mr. Sams was 68 years of age.

"Honey for Breakfast" Week, April 5-11

April 5, Easter Sunday, will start "Honey for Breakfast" Week, sponsored by the American Honey Institute, Madison, Wisconsin, of which Mrs. Harriett M. Grace is the director. Particulars concerning the publicity in advance of these dates, in which



WOODMAN 30-1912

BINGHAM 34-1878

SMOKERS 64 Years

Have pleased Beekeepers in many lands

In 1878 Mr. T. F. Bingham, the highest type old time gentleman and beekeeper, invented the direct draft Bee Smoker. In 1912 Woodman bought out Mr. Bingham at the age of 80 years and added his Smoker and Uncapping Knife, to his business established in 1880. Just think of what the Michigan Beekeepers Assn. organized in 1865, had to contend with in bee smokers at the time.

Woodman Bingham Smokers have always been leaders in using the heaviest metal that can be worked with minor improvements and refinements nearly every year. Recent tests of 120,000 compressions of the bellows show no wear of the bellows fabric, the best ever used for the purpose. Treat yourself to a new smoker and veil each season, you are entitled to this satisfaction. A new broom always sweeps best.

A. G. WOODMAN CO. : Grand Rapids, Mich., U. S. A.

CARNIOLANS

QUALITY — SERVICE
SATISFACTION

Quantity	1-9	10-49	50 and over
2-lb. Bees with Queen	\$2.45	\$2.35	\$2.25 F. O. B.
3-lb. Bees and Queen	3.10	2.95	2.80 F. O. B.
Queens	.75	.70	.65 Prepaid

EPHARDT'S HONEY FARMS : Plaucheville, La.



FAST SERVICE AND RESULTS

Our breeding stock has been selected first, for prolificness; secondly, for high honey production; third, for gentleness; and fourth, for appearance. We will put a colony of these bees up against any for honey production.

We are prepared to ship queens by airmail at no extra charge. There are four express and mail trains per day for bees on quick notice. With each package bee shipment, we send 4 per cent extra queens to replace any possible loss when queens are needed at once.

	2-Lb. Package	3-Lb. Package	Queens
1- 9	\$2.50	\$3.20	\$.85
10- 24	2.45	3.10	.80
25- 49	2.40	3.00	.75
50 up	2.35	2.90	.70

15% booking deposit required

For price of larger packages or queenless packages, write us

WRITE FOR PARTICULARS

DANIELS APIARIES, Picayune, Miss.

MOUNTAIN GRAY Bees and Queens

30 days ago we predicted there would not be enough package bees to supply demand, it still holds good. "All that have tried our bees know them, all that haven't doesn't." Prices till June.

	Untested	2-Lb. with queens	3-Lb. with queen
1 to 49	\$.75	\$2.60	\$3.30
50 to 99	.70	2.40	3.10

Order your bees early

BOLLING BEE CO.
BOLLING, ALA.

Breeders of Gray Bees Only

\$17.50 1942 PATENT
TRUCK MODEL \$10
HOLST
T. B. TURNER, Corning, Iowa

BLUE RIBBON PACKAGE BEES

"BEST IN THE WEST"

If larger packages are wanted add 50c for each additional pound of bees. If queenless packages are wanted deduct the price of the queen.

	2-Lb. Pkgs.	3-Lb. Pkgs.
1 to 24	\$2.40	\$3.00
25 and up	2.20	2.70

Extra queens 80c each, any number
THOS. C. BURLESON, COLUSA, CALIF.

bakers are usually interested, will no doubt appear soon.

As usual, National Honey Week will be celebrated the last week in October, October 26 to November 1. (From Bakers' Helper, January 17)



George Franklin Jones

George Franklin Jones, 73, well-known resident of Thomasville, North Carolina, passed away March 4. He had spent most of his life as an extensive beekeeper and apiarist in North Carolina and Virginia.

He started beekeeping as a boy of thirteen in his father's backyard with one colony, and his interest grew until he had at one time 350 colonies of Italian bees. Along with his interest, he was a keen student and a reader of bee magazines.

Roscoe D. Jones.

Bronx (N. Y.) Meeting April 12

The Bronx Beekeepers Association will hold their regular monthly meeting on April 12, at the home of L. Jones, 1727 Undercliff Avenue, Bronx. All beekeepers are welcome. At this meeting we will give a demonstration showing the results of proper winter covering. This meeting is free and refreshments will be served.

Harry Newman, Sec'y.

Erie, Pa., April 24

Our next meeting will be held April 24, 1942. Prof. E. J. Anderson will be present and give us a talk on spring management, and on this day there will be several packages of bees shipped in from the South and will be introduced into hives. Shipment of bees from the South will be the heaviest that it has been for several years.

Elmer E. Root,
Erie, Pa.

Iowa Radio Chats

The annual spring series of radio chats for beekeepers will be given

over WOI, 640 kilocycles, beginning Monday, April 6, at 6:45 A. M. It is expected that the listeners of former programs will be on hand at this time and new ones are invited.

Prof. F. B. Paddock.

Massachusetts

Last Sunday (March 1) the bees were flying quite freely. It was too cold to permit examination. However, today, March 8, it is warm enough. Medium sized colonies are just starting brood rearing and perhaps they have a half a comb of brood, partly sealed. Strong colonies averaging ten combs have from one to two combs of brood. I cannot recall seeing the bees as powerful so early. There are more bees in the hives now than generally April 1.

This may be due to the fact that winter stores were of excellent quality, aster and goldenrod honey, fully ripened. Brood rearing was heavy in September which gave young bees for wintering. They had a good flight at Christmas, and while January and February were colder than usual, the bees did not suffer. They should reach swarming by May 1.

R. E. Newell.

Mrs. Harry W. Jones—Mrs. Frank W. Jones

It will doubtless be of interest to a number of our readers to learn of the sudden death of Mrs. Harry W. Jones, the wife of the General Manager of the firm of F. W. Jones & Son, on January 24th. Her sudden passing was followed on February 10th by that of Mrs. Frank W. Jones, the mother of Harry Jones, and wife of F. W. Jones, the founder of the above firm. It may be recalled that Mr. and Mrs. F. W. Jones celebrated their golden wedding on December 2, 1939. Mr. F. W. Jones, although retired, continues to take a keen interest in the business founded by him 64 years ago.

Idaho

Our winter dies hard. None of our bees (March 13) are dug out of winter packs, as at this elevation, 4,400 feet, the early spring winds are cold with much snow in March. I hope to start unpacking April 1, only removing the top dirt and straw, setting the hives two or three inches out from the wall of straw and dirt built at their rear.

I pack in ricks of twelve hives on dry straw, covering with straw and dirt, leaving the fronts exposed. Even the fronts are not wholly exposed as the straw and dirt is packed across them up to within two inches of the

cover, and a top entrance is used.

Most beekeepers are worried about stores, but I do not think losses will be very heavy, since the winter was cold and the bees were dormant.

I hope the industry will meet the emergency with a large crop.

Sam C. Nealey,
Idaho.

We have had a very severe cold winter—the worst in many years, lots of snow and 15 below zero for several days, which is unusual. But for all, our colonies look very nice and some have four combs of brood at this writing and lots of bees.

D. C. Stahlman,
Buhl.
(3-11-42)

Harry B. Anderson Lost in Service

My elder son, Harry B. Anderson, was killed in war service on October 2, 1941. It hurts very much to have to report this. We have no longer any interest in bees, since our son is now gone.

Mrs. Catherine Anderson,
Scotland.

Frank Johns President at Vancouver

Members of the Vancouver division of the British Columbia Honey Producers' Association have recalled Frank Johns, well-known beekeeper and hardware man, as president. Mr. Johns resigned a year or two ago as secretary of the British Columbia Association. J. W. Woods is vice-president; H. Green, secretary-treasurer; P. H. Hodgson, auditor. Mr. Johns is delegate to the central executive and H. Green, A. F. Scott, A. Chatt, Mrs. R. S. Chamberlain, W. J. Johnson, P. H. Hodgson and J. W. Wood are directors. J. B. Munro, deputy minister of agriculture, has been appointed honorary president; J. W. Winson, honorary vice-president; and E. Barrett, honorary past president.

F. H. Fullerton,
Vancouver.

Oklahoma State Meeting

The Oklahoma State Beekeepers' Association met November 22 at Muskogee. Unfavorable weather conditions over the state were blamed for light attendance at the convention, but topics of importance were dealt with nevertheless. Probably the most important problem tackled by the state organization was that of obtaining adequate inspection facilities for the beekeepers of Oklahoma. Existing state laws provide that bees must be inspected by a state officer before they can be moved, but, it was explained, a sufficient number of inspectors is not provided because

RELIABLE BEES AND QUEENS



RELIABLE SERVICE

Pure Mating — Safe Arrival
Prompt Shipment

THREE-BANDED ITALIANS

Quality Bees — Queens Guaranteed

	2-lb. pkgs.	3-lb. pkgs.	4-lb. pkgs.	5-lb. pkgs.	Queens
1- 24	\$2.50	\$3.20	\$3.85	\$4.45	\$.75
24- 99	2.35	3.00	3.60	4.15	.70
100-499	2.20	2.80	3.35	3.85	.65

Shipment by express. Prices on mail shipments quoted on request. Prices subject to change without notice.

W. E. HARRELL, Hayneville, Alabama

Package Bees All Sold for This Season

Queens still available for delivery after May 15th. None before.

DAVIS BROS. Sacramento, California
Rt. 7, Box 3914

Producers of fine Caucasian and Italian Queens

IMPERIAL QUEENS Package Bees and Nuclei ITALIAN :: CAUCASIAN

Breeders tested in Northern Clover Belt. Prompt shipment—full weight packages—responsible and fair dealing. Order early for best results.

Untested Italian Queens	\$.80 each
Untested Caucasian Queens	.90 each
2-Lb. Package with Untested Queen	2.50 each
3-Lb. Package with Untested Queen	3.20 each
2-Lb. Nucleus with Queen and 1 Fr. Brood	2.85 each

THE COFFEY APIARIES, WHITSETT, TEXAS

Write for special quantity discounts

Brazos Valley Apiaries
Cameron, Texas

Bees & Queens

Brazos Valley Apiaries
Cameron, Texas

ITALIAN OR CAUCASIAN

	1 to 5	6 or more
2-Lb. bees with young queen	\$2.50 each	\$2.25 each
3-Lb. bees with young queen	3.20 each	2.90 each

Over a quarter of a century in the same place, in the same business is my record
My motto: I will expect to do business with you again.

H. E. GRAHAM, Cameron, Texas

Gaspard's Quality GOLDEN AND THREE-BANDED ITALIAN QUEENS AND PACKAGE BEES

We are now booking orders for Spring 1942 on the same old basis, Quality, Full Weight, Prompt Service and Satisfaction. 10% will book your order, balance at shipping time. Book your order now and reserve shipping date. Prices as follows:

Combless packages with queens				
Lots of	Queens	2-Lb. Pkg.	3-Lb. Pkg.	4-Lb. Pkg.
1 to 24	\$.75	\$2.25	\$2.95	\$3.60
25 to 99	.70	2.10	2.75	3.35
100 or more	.65	2.00	2.50	3.15
Comb packages with one Standard frame brood each				
Lots of	2-Lb. Pkg.	3-Lb. Pkg.	4-Lb. Pkg.	
1 to 24	\$2.75	\$3.45	\$4.10	
25 to 99	2.60	3.25	3.85	
100 or more	2.50	3.00	3.65	

If queenless packages are desired, deduct price of queen, for larger packages, for each additional pound of bees add 50c. Each additional frame of brood add 50c or write us.

Address **J. L. GASPARD, Hessmer, La.**

To assure yourself of obtaining the best of supplies, read the ads of A-B-J—when writing to them, mention A-B-J

Three-Banded Italian

A distinctive Northern stock of excellent strain that is prolific, gentle, hardy and high producers. Bees are young, no disease here, overweight packages go direct from yards to express car.

WICHT APIARIES

406 Miller Street
HATTIESBURG, MISSISSIPPI

Package Bees with Queens

Three-Banded Italians

	2-Lb. Pkgs.	3-Lb. Pkgs.
1- 24	\$2.50	\$3.20
25- 99	2.35	3.00
100-499	2.20	2.80

Queens 75c ea.

Order as early as possible to be sure of getting bees

THE CROWVILLE APIARIES

WINNSBORO, LA.
J. J. Scott, Prop. Route 1

Bright 3-Banded Italian Bees and Queens

Send us your order early and let us book you for an early shipment, all our bees are selected stock, selected from year to year for their qualities, they are gentle, hardy, vigorous, and longer lived than the ordinary bee. Our packages are stocked with full weight of young bees and queens.

2-Lbs. bees with queen	\$2.30 ea.
3-Lbs. bees with queen	3.00 ea.
4-Lbs. bees with queen	3.65 ea.
Queens	.70 ea.

We guarantee you satisfaction, live delivery and no disease

OSCAR ARNOUVILLE, Hamburg, La.

SHAW'S 3-Banded Italians

For 19 years, this famous strain of Italians has pleased the most exacting honey producer and has made me friends wherever purchased. Try them and make this a profitable season.

In addition to the above strain, I will be able to supply you with queens, and a limited number of packages with queens from stock bred for resistance to disease. Colonies averaged 200 lbs. in Mississippi, the past season—and this is no honey state.

As it costs nothing to book your order, and will be to the advantage of both of us, do it early. Safe arrival and satisfaction guaranteed.

Prices—either strain:

Lots of	Queens	2-lbs.	3-lbs.
1- 24	\$.75	\$2.50	\$3.20
25- 99	.70	2.35	3.00
100-499	.65	2.20	2.80

If queenless packages are wanted, deduct price of queen.

A. E. SHAW, Shannon, Miss.

of lack of funds. As a result of the discussion, a committee to work on a plan whereby deputy state inspectors might be appointed in communities with bee population were named following approval of a motion to this effect. The committee will be headed by J. M. Goin, state entomologist, who at present serves as the inspector with the state board of agriculture. Other members of the committee will be Sidney Hale, of Muskogee, and Robert Snider, of Bixby, both widely known in Oklahoma beekeeping circles.

One of the outstanding convention discussions was given by Mr. Goin who reported on the progress made in bee inspection in 1941, along with a comparison of previous years' work. Goin pointed out that while facilities for close inspection and full coverage of the state are lacking, the percentage of foulbrood is showing a steady, if slow, decline.

In the business session, Okmulgee was chosen site of the 1942 convention, and officers were elected as follows: A. B. Harris, president; J. W. Moore, vice-president; Joe Bailey, secretary; Lieutenant Governor James E. Berry, treasurer; E. H. Vincent, R. E. Blackwell, R. J. Mead and E. R. Rulison, Jr., executive board members.

Sangster, President, Fraser Valley

J. L. Sangster is the new president of the Fraser Valley and New Westminster division of the British Columbia Honey Producers' Association; Mrs. Ada Muir, vice-president; and J. H. Dicks, secretary-treasurer. The executive committee: W. Chard, Mrs. Muir, W. McDermott, J. H. Dicks, D. W. Poppy, Scott Fenton, J. W. Winson, H. Langston Johnston, J. P. Hodgson, A. A. Paul, Peter Faircloth and J. H. Holt. Mr. Winson is the representative to the central executive of the British Columbia association and A. W. Finlay, auditor.

F. H. Fullerton,
British Columbia.

Oregon State Meeting

The annual meeting of the Oregon State Beekeepers' Association was held in Portland on November 21 and 22. Visitors from Washington and Idaho helped to make the program a success. While it seemed we were destined to a dull time owing to the failure of three principal speakers to be on hand, the meeting went along as well as ever. Under the direction of President W. D. Haskell, and with the smiling face of Dr. H. A. Scullen in evidence (Dr. Scullen long served the state association as secretary), the meeting seemed like old times. L. M. White, who had attended the

national convention, gave his report of the doings at Niagara Falls; and Geo. N. Paige, president of the Washington State Beekeepers' Association, talked about his principal diversion—a new co-operative honey packing plant in Tacoma, which is already making promising strides. New officers were elected as follows: H. J. Moulton, president; Mrs. Callie Burt, vice-president; and John D. Burt, secretary-treasurer.

Missouri Association

The Missouri State Beekeepers' Association held its annual meeting on Thursday, October 30, 1941, during Farmers' Week at Columbia, Missouri. It was one of the best meetings held for several years and there seemed to be considerable enthusiasm in association work for 1942. John Whyte, Jefferson City, and Carl Kalthoff, Dover, furnished honey for display purposes during Farm and Home Week. The displays were exceptionally pretty and they attracted much attention. Plans were made at the meeting for continuing much of the work started during 1941 and to do everything possible to increase the membership during 1942. The officers for the year are: Carl Kalthoff, Dover, president; A. W. Gale, Chillicothe, vice-president; and George D. Jones, Columbia, secretary-treasurer.

George D. Jones,
Secretary-Treasurer.

Georgia Annual

This meeting was attended by more Georgia beekeepers than at any meeting held in Georgia in many years. The beekeepers of my county (Clinch) entertained the association at Pleasure Lake on the night of October 8, serving a fish and bear steak supper. The boys killed the bear the day before the meeting. F. W. Jernigan was in charge of the entertainment and he did a real job. We had over two hundred for the supper.

J. H. Girardeau, our state entomologist, who is also a commercial beekeeper, was with us and told the beekeepers of his new departmental rules and regulations on inspection work. They are going to add ten inspectors during the spring to assist our regular inspectors during the rush season. His department has a bee motion picture which is real interesting. The beekeepers of Georgia are proud in having a beekeeper to head the department of entomology. Ben T. Willoughby, representative, who is on the appropriation committee for the state of Georgia, told in a speech to the association that the Governor said anything in reason we need, to

let him know. The beekeepers left Homerville feeling a great work had been accomplished. New officers for 1942 are P. V. Ryals, Clayton, president; F. W. Jernigan, Homerville, vice-president; G. G. Puett, Hahira, secretary-treasurer.

C. H. Herndon,
Dupont, Georgia.

"Honey Cookery News"

This is the title of a printed publication for home makers, published six times a year by Irene W. Duax, 3414 So. Western Avenue, Chicago, dealing with homemaking contest, recipes and news of interest to those who use honey in the home, also news of auxiliary organizations. A sample copy may be secured from Mrs. Duax.

NOSEMA DISEASE CONTRIBUTES TO QUEEN SUPERSEDURE

It will be appreciated if beekeepers who find queens, which have either stopped laying or are thrown out in front of the hive entrance during April, May, or June, will send them for Nosema examination to the North Central States Bee Culture Laboratory, 6 King Hall, Madison, Wisconsin.

Observations made at the Madison laboratory during 1941 indicate that infection of package queens with Nosema spores may be an important factor in abnormal supersedure. Brood rearing is not normal when a large percentage of the worker population is infected with Nosema regardless of the colony strength or the abundance of pollen and honey. Queen infection appears to be a matter of chance but infected queens usually reduce or stop laying for a few days before supersedure cells are started.

The full importance of Nosema disease in supersedure may be difficult to determine because the superseded queen often is not found for examination. Beekeepers can aid this study by supplying any superseded queen they find. They should be accompanied by full information concerning date of introduction, date of supersedure, condition of brood nest, amount of pollen, honey reserves, and the weather as it has influenced field activity. Information as to the source of stock will be of value in tracing centers of Nosema infection.

[From: Division of Bee Culture Beltsville Research Center, Beltsville, Maryland, March 17, 1942.]

BERNELL'S Bees and Queens

2-Lb. package with queen	\$2.30
3-Lb. package with queen	2.90
Queens	each .70

We have made this small advance in prices, so we can continue our prompt service, on our special strain of 3-Banded Italian package bees and queens. Also daughters from stock bred for resistance to A. F. B.

R. L. BERNELL, Route 4, Box 270
NEW ORLEANS, LA.

SATISFACTION

That is what you get when you buy bees and queens from Lucedale Apiaries. Every package and queen guaranteed to give satisfaction. Overweight packages—young baby bees—prompt service. **THREE BANDED ITALIAN BEES AND QUEENS.** No disease.

Queens from daughters of stock bred for resistance at no extra cost.

	Queens	2-Lb. Pkg.	3-Lb. Pkg.
1- 24	\$.75	\$2.50	\$3.20
25- 99	.70	2.35	3.00
100-499	.65	2.20	2.80

For extra pound add 60c. Queenless package deduct price of queen.

LUCEDALE APIARIES, Lucedale, Miss.



YOUR SUPPLIES ON THE WAY WITHIN 24 HOURS



This is fast service right to you. From our complete stock, we can ship practically all orders in 24 hours.

Forty-seven years in business have given us a reputation for honest dealing and for dependability.

If you have not received our new 1942 catalog, please write for it.

A. H. RUSCH & SON CO., Reedsville, Wisconsin

JENSEN'S

Package Bees, Queens and Service Are Dependable

"Magnolia State" Strain Pure Italians. Also daughters of stock bred for resistance. There is no substitute for quality; and under present conditions you can afford to use nothing but the best bees and queens. We claim ours to be equal of any regardless of name or price. Twenty-eight years' experience behind us; years crammed with experiences that show up in our products. Orders already booked indicate we will be able to supply the demands that will be made on us.

Quantities	Queens	2-Lb.	3-Lb.
1- 24	\$.75	\$2.50	\$3.20
25- 99	.70	2.35	3.00
100-499	.65	2.20	2.80
500-up	.60	2.00	2.55

Queens from daughters of stock bred for resistance 10c each additional per queen, supply limited. Booster package (queenless) deduct price of queen.

JENSEN'S APIARIES
Macon, Mississippi, U. S. A.

Package Bees and Queens

THREE-BANDED ITALIANS
2-lb. package with queen \$2.50
3-lb. package with queen 3.10
Queens 70c each

We specialize in queens

DUPUIS APIARIES Breaux Bridge, Louisiana

FRANKLIN'S

"FROM THE DEEP SOUTH"

ITALIAN BEES and QUEENS

2-Lb. Pkg. with Queen \$2.30
3-Lb. Pkg. with Queen 2.80
Queens, each .75

Discount to Dealers

J. D. Franklin, 2815 Comus Court, New Orleans, La.

Caucasian Queens & Package Bees

Queens 1 to 10, 80c ea. 10 or more 75c ea.
Package bees 2-lb. pkg. \$2.50 ea. 3-lb. \$3.00
10 to 25 2-lb. pkgs. \$2.40 ea. 3-lb. \$2.80
25 or more 2-lb. pkgs. \$2.20 ea. 3-lb. \$2.60

GOLDEN WEST APIARIES
Manteca, California

Italian Strain Bees & Queens

	Young Queens	2-Lb. Pkg.	3-Lb. Pkg.	4-Lb. Pkg.
1-24	\$.75	\$2.50	\$3.20	\$3.85
25-99	.70	2.35	3.00	3.60
100-499	.65	2.20	2.80	3.35
500 up	.60	2.00	2.55	3.05

Shipping point Epea, Ala.

LITTLE BROS., Sumterville, Alabama

**CONSIGNMENTS WANTED**

Comb and strained honey. We pay highest market prices. Please write for tags and quotations. 106 S. Water Market

PACKAGE BEES AND QUEENS for 1942

BRIGHT THREE BANDED ITALIANS
Improved stock With Queen
Queens 2-Lb. 3-Lb.
1-24 \$.75 \$2.50 \$3.20
25-99 .70 2.35 3.00
100 or more .65 2.20 2.80

Prompt shipment, safe arrival satisfaction guaranteed. Write for circular.

TAYLOR APIARIES, Luverne, Ala.

The BEST PACKAGE

to be had. About 75% baby bees, 25% teachers.

A good Italian queen raised right. We try to make you money.

The VICTOR APIARIES, Shepherd, Texas

EVERY BEE MAN should have a pair of these practical, useful and handy HIVE TOOL and PLIERS combined. Give quick work, best frame lifter and holder. Strong and durable for heavy service but light to handle. Price \$1. CALIFORNIA BEE & TOOL CO. 810 W. Pedregosa St., Santa Barbara, Calif.

AMERICAN RABBIT JOURNAL

Shows the Way to Success

Gives the latest news and views of the rabbit world—an illustrated monthly magazine of general and educational features. One year \$1.00; three years, 2.00; sample 15c.

AMERICAN RABBIT JOURNAL
Dept. S. Warrenton, Missouri

Homan's 3-Banded Italian Bees and Queens

Vigorous honey producers. The best by test. We know how to raise queens and package bees for shipping, as we have had life experience with bees. When you order from us you get Young Bees and Queens.

No extra charges on booked orders. Safe arrival and satisfaction guaranteed.

Prices on Package Bees and Queens

Lots	Queens	2-Lb. Pkg.	3-Lb. Pkg.
1 to 24	\$.75	\$2.50	\$3.20
25 to 99	.70	2.35	3.00
100 to 499	.65	2.20	2.80

HOMAN BROS. : Shannon, Miss.

STURDY ITALIANS

Golden Italians from very high producing stock. Queens are heavy, fast layers, workers are light three banded and easy to work with. The hives are overflowing with young bees and the combs are dripping with nectar, a picture of health and productivity.

CARNIOLANS

Try the Carniolans, they give you whiter combs and very generous with their honey. These yards are adequately separated to give you the purest mating possible.

Prices	2-lb.	3-lb.	1 Queen
Sturdy Italians	\$2.10	\$2.60	\$.60
Italian queens from stock bred for resistance	60 cents		
Carniolans	2.30	3.00	.70

Guaranteed heavy weight and live delivery. Your order large or small will be given our best attention.

NEAL'S APIARIES : Hamburg, La.

ITALIAN PACKAGE BEES

Can be furnished with queens from daughters of stock bred for resistance to A. F. B. as well as with my old reliable light three banded almost golden which is unsurpassed for their gentleness and productivity and a pleasure to work with.

Timely purchases of materials essential to our operation has enabled us to have every thing in readiness for us to be able to assure all our customers of the same prompt service they are accustomed to. All packages priced with selected untested queens.

	Combless	Comb	Queens—1 to 9 each
1 to 9—2-lbs. each	\$2.25	\$2.50	10 on up .65
10 to 24—2-lbs. each	2.10	2.35	Prompt service, live delivery, health, and complete satisfaction guaranteed.
1 to 9—3-lbs. each	2.80	3.00	For special price on large orders please write to
10 to 24—3-lbs. each	2.55	2.85	

Plauche Bee Farm : Hamburg, La.

WE ARE PREPARED

to supply your needs with the best in Mountain Gray Caucasian bees and queens, and to DO OUR PART FOR NATIONAL DEFENSE. Fill your hives with our bees, give them plenty of room and secure a bumper crop of the best energy food. DO YOUR PART FOR NATIONAL DEFENSE. Select untested queen bees 75c each, any number.

	1 to 24	25 to 99	100 or more
Two pound package bees with queens	\$2.50	\$2.35	\$2.25
Three pound packages with queens	3.20	3.00	2.85

Circular free on request

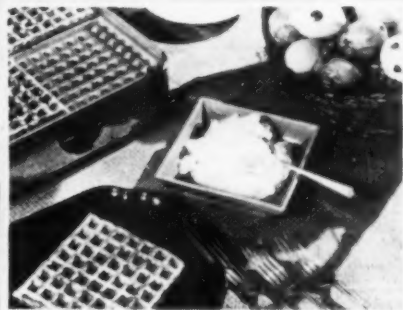
Caucasian Apiaries

Brooklyn, Alabama

Home of genuine Mountain Gray Caucasian Bees

WE WILL BUY YOUR "CHUNK HONEY" IN THE SUPERS. . . WRITE US TODAY.
THE FRED. W. MUTH CO. Pearl and Walnut Cincinnati, Ohio

Kraft Cheese Company releases "Honey Cream Cheese" with photograph to news- papers throughout the country.



One of the many pieces of publicity given the Institute during 1941

Are you helping the Institute?

A letter from the Institute says:—

"We are getting 400 or more letters every single day, so you may know that it keeps us busy sending answers to all these inquiries and answering the numerous questions about honey."

The Institute is doing wonderful work and now as never before, the honey industry has an opportunity to actually put honey "on the map."

We should all do our part. Contributions to the American Honey Institute are usually figured on the basis of \$1.00 per ton of honey produced. If you have not sent in your contribution for 1941, **send it now**. The work that the Institute does now for honey will count heavily in the years to come. Consumers if taught to use honey properly now will remain steady buyers in the future.

SUPPORT THE AMERICAN HONEY INSTITUTE

Send your contributions or pledges to them at Commercial State Bank Building, Madison, Wisconsin

Lest You Forget

The Good Rule to Go By—BUY
YOUR ITALIAN BEES AND QUEENS
from

Alabama Apiaries

URIAH, ALABAMA, R. F. D.

2-lb. pkg. with queen 1 to 24 — \$2.50
2-lb. pkg. with queen 25 to 100. 2.35
3-lb. pkg. with queen 1 to 24 — 3.20
3-lb. pkg. with queen 25 to 100. 3.00
Queens—1 to 24 75c; 25 to 100 70c;
100 up 65c. Our aim, once a customer
always a customer.

Renew your subscription today!
You don't want to miss an issue.

\$2 2-Lb. Package \$2 Italian Bees & Queen

Queens 60c each, Postpaid
Health Certificates

E. A. CASWELL

4019 Piety St., Rt. 4, New Orleans, La.

For Better Beekeeping
Use

DADANT'S FOUNDATION

FIRST CHOICE of EXPERT BEEKEEPERS

Remember, you saw it
in *The Bee Journal*

Yes we put the Quality in the Queen Three Band Italians

	Queens	2-Lb.	3-Lb.
1 to 24	\$.75	\$2.50	\$3.20
25-99	.70	2.35	3.00
100-up	.65	2.20	2.80

We Guarantee Perfect Satisfaction

B. A. Anderson & Co., Opp, Ala.

3-Banded Italian Bees and Queens

For 1942

2-lbs. bees and young laying queen \$2.20
3-lb. bees and young laying queen 2.80
Queens .60

10% discount to dealers

J. P. CORONA

BOX 124 KENNER, LA.

FOR SALE

Bright yellow and Three Banded
Italian Bees and Queens. Nothing but
the best. Keep us in mind, we are
ready to serve you.

GRAYDON BROS.

RT. 2 GREENVILLE, ALA.

BEE RITE TOP ENTRANCE

Ventilating Hive Covers. Prices,
F. O. B. factory, 8 Fr. wt. 6 lbs. \$1.40,
10 Fr. wt. 7 lbs. \$1.50, 11 Fr. wt. 9
lbs. \$1.65 each. If returned within one
year, all money promptly refunded.
Costs nothing to try this wonderful
improvement. Free Folder.

Evans Bee Rite Health Hives, Cuba, N. Y.

SPECIAL 1942 PRICE

ITALIAN PACKAGE BEES

With queens, 2-lbs. \$1.85; 3-lbs. \$2.30;
4-lbs. \$2.75; Queens 65c. 15% down
books order. Health certificate. Full
weight. Safe delivery guaranteed.

Address

HESSMER BEE FARM
HESSMER, LA.

Flowers' Improved Italians

Three-band improved quality Italians;
gentle; prolific; build up quick; from
stock bred for resistance; fill your
hive with bees; fill it with honey;
none better. Our bees and queens will
suit you and our prices too. Thousands
of satisfied customers. Get our booklet.

FLOWERS BEE CO., Jesup, Ga.

Italian Package Bees and Queens

For early shipment, write at
once to

AL WINN

Route 2, Box 161 PETALUMA, CALIF.

PACKAGE BEES AND QUEENS FOR 1942

Orders large or small will receive our
prompt attention

Write for Prices

R. E. LaBARRE

Cottonwood, Calif., Shasta County, Box 172

PIGEONS

If you are interested in Pigeons, you need
the AMERICAN PIGEON JOURNAL, an
informational instructive 52 page monthly
magazine. Sample 15c; 12 months, \$1.50.

AMERICAN PIGEON JOURNAL
Dept. B Warrenton, Mo.

BETTER THAN EVER

Years spent in trying different locations for rearing queens and bees lead to Florida. We have 1,000 colonies and experienced men. Get ready for 1942. Write for information on our bees and queens.

N. FOREHAND
FLORALA, ALA.

Gibbs Package Bees & Queens

Prices Through April 30th
2-lb. package with queen \$2.35
3-lb. package with queen 3.00
Queens70

For queenless packages deduct price of queen. We can supply large quantities of bees until May 1st. Due to war conditions we are not in position to accept any more orders to be shipped after May 1st. Quality, prompt service and satisfaction guaranteed.

Our new address:

W. O. GIBBS
ENIGMA, GEORGIA

KOEHNEN'S
Package Bees
and Queens

FOR
QUALITY AND SERVICE
Write

KOEHNEN'S APIARIES
GLENN, CALIFORNIA

Package Bees & Queens

FOR MAY AND JUNE DELIVERIES

2-lbs. bees with queen, combless \$2.25
3-lbs. bees with queen, combless 2.85
4-lbs. bees with queen, combless 3.45

Packages with one standard comb 40c more, additional combs 75c each. Queen 65c.

Service—Quality—Safe Delivery
State Dept. of Agri. certificate, certifying freedom from disease with each shipment.

St. Romains "Honey Girl" Apiaries
Moreauville, Louisiana

The GOAT WORLD

OFFICIAL ORGAN OF THE
American Milk Goat Record Association
Oldest and largest Milk Goat magazine published. Broadest circulation. Articles by best authorities. Subscription rate: one year \$2.00; three years \$4.00; five years \$6.00.

Sample copy 20 cents

Address:

The Goat World, Vincennes, Ind.

WE THANK YOU

For the many orders you have favored us with. We have good help and will do our best to give you quality and service. If you have not sent in your order please do so at once.

Weaver Apiaries : Navasota, Texas

ITALIAN BEES AND QUEENS

On the same OLD BASIS—SERVICE, QUALITY, SATISFACTION

2-lb. Package with Queen \$2.45
3-lb. Package with Queen 2.95
Queens, 75c each

Book your order now and reserve shipping date. Write for prices on large quantity.

Our packages and queens have made a name for themselves. They are noted for honey gathering, hardiness, non-swarming and gentleness. Service, quality and safe delivery guaranteed. Your order large or small will receive our very best attention.

E. J. BORDELON APIARIES, Box 33, Moreauville, La.

Order Bees and Queens EARLY

	Queen	2-Lb. with Queen	3-Lb. with Queen
1- 25	\$.75	\$2.50	\$3.20
25-100	.70	2.35	3.00
100-500	.65	2.20	2.80
500-Up	.60	2.00	2.55

J. F. McVAY, Jackson, Alabama

Fresh From Our Yards—
Our THREE-BANDED ITALIANS

Shipped within 24 hours after
receipt of your order

	Packages with Queens			
	2-Lb.	3-Lb.	4-Lb.	5-Lb.
1-24	\$2.50	\$3.20	\$3.85	\$4.45
25-99	2.35	3.00	3.60	4.15
100 and up	2.20	2.80	3.35	3.85

Young laying queens 75c. 25 or more 70c. 100 or more 65c.

Tested queens \$1.50 each. Queenless packages deduct price of queen.

Don't take a chance. A few days may be the difference between success and failure.

Citronelle Bee Co. : Citronelle, Ala.

YORK'S

Package Bees and Queens

Quality Bred Italians

We wish to thank all of those for their fine response to our recent ads. Our queens are as good as can be produced and packages are full weights, quality bees with good young laying queens. Prices on queens and package bees with queens in U. S. funds.

Quantity	1 to 24	25 to 99	100 up
Untested queens	\$.80	\$.75	\$.70
Tested queens	1.60	1.50	1.40
2-Lb. packages	2.50	2.35	2.20
3-Lb. packages	3.20	3.00	2.80

YORK BEE COMPANY

JESUP, GA., U. S. A.

(The Universal Apiaries)

Merrill's Quality Bees and Queens

Have stood the test for 30 years. Try them. They will please you too. Shipments made promptly.

Prices of Packages with Queens to May 15

Lots of	Queens	2-Lb.	3-Lb.
1- 24	\$.75	\$2.50	\$3.20
25- 99	.70	2.35	3.00
100-499	.65	2.20	2.80

If queenless packages are desired, deduct price of queen. If larger packages or larger number is desired, write us.

MERRILL BEE COMPANY

BUCATUNNA, MISSISSIPPI

Mississippi's Oldest Shipper

Three-Band

ITALIAN BEES & QUEENS

Full weight, prompt shipment, young bees. State health certificate with each shipment. Live arrival guaranteed, replacement or refund made promptly upon receipt of bad order, from express agent.

2 Pound packages bees with untested queens	each	\$2.05
3 Pound packages bees with untested queens	each	2.65
4 Pound packages bees with untested queens	each	3.25
5 pound packages bees with untested queens	each	3.85
Untested queens		.60
Tested queens		1.20

(Payable in U. S. Funds)

For introduced queen packages add 25c each. Standard combs for nuclei add 60c for each comb to the size package quoted above wanted.

JACKSON APIARIES

FUNSTON, GEORGIA, U. S. A.

HELLO FOLKS!

HERE WE ARE AGAIN

STEVENSON'S LINE-BRED GOLDENS

1. We are the best of honey producers. 2. So gentle that it is a real pleasure to work with us. 3. Do not swarm until the hive is well filled. 4. Not nervous. 5. Our gentleness makes queen introduction safe, very little supersedure.

WE ARE REALLY GOOD

2-lb. pkgs. with queens to 49 \$2.45; to 99 \$2.30; over \$2.20. Additional bees 70c per lb. Queens 75c. Dealers and Associations 10% discount. Write

STEVENSON'S APIARIES

Westwego, Louisiana
For descriptive circular

STATEMENT OF THE OWNERSHIP MANAGEMENT, CIRCULATION, ETC., RE- QUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912 AND MARCH 3, 1933.

Of American Bee Journal, published monthly
at Hamilton, Illinois, for April 1, 1942.

STATE OF ILLINOIS, } ss.
County of Hancock, }

Before me, a notary public in and for the state and county aforesaid, personally appeared M. G. Dadant, who, having been duly sworn according to law, deposes and says that he is the business manager of the American Bee Journal and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the name and addresses of the publishers, editors, and business managers are:

Publishers: American Bee Journal, Hamilton, Ill.

Editors: G. H. Cale, Hamilton, Ill., Frank Pellett, Hamilton, Ill., M. G. Dadant, Hamilton, Ill.

Business Managers: M. G. Dadant, Hamilton, Ill., J. C. Dadant, Hamilton, Ill.

2. That the owners are:

H. C. Dadant, Hamilton, Ill.
J. C. Dadant, Hamilton, Ill.
V. M. Dadant, Hamilton, Ill.
M. G. Dadant, Hamilton, Ill.
C. S. Dadant, Hamilton, Ill.
R. A. Grout, Hamilton, Ill.
L. C. Dadant, Hamilton, Ill.
R. H. Dadant, Hamilton, Ill.
Louisa G. Saugier, Hamilton, Ill.

3. That the known bondholders, mortgagees and other security holders owning or holding one per cent or more of the total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

(Signed) M. G. DADANT,
Business Manager American Bee Journal.

Sworn to and subscribed before me this 19th day of March, 1942.

MINNIE S. KING, Notary Public.
My commission expires Nov. 18 1945.

Build Yourself This New Uncapping Unit!

Save Time—Save Money!
Less Muss—Better Honey!

with the Bradshaw

Demountable Uncapping Tub, Table and Press

The 12,000 colony Bradshaw Apiaries fooled around for years with the usual muss, fuss, and headaches of handling cappings until finally they perfected their Demountable Tub, Table and Press.

The old methods were all mussy, costly, and uncertain as to color and quality of the honey. Certainly, the industry needed a better method, and Necessity is the Mother of Invention. Months of experiment and painstaking trials resulted in the perfected Bradshaw uncapping unit.

Now all you have to do is slice cappings off with electric knife (or by your usual method) into Bradshaw Demountable Tub and put under press to force out honey. A schoolboy can do this, and you'll get up to 98½% of the honey without discoloration or loss of flavor.

Best of all, the tubs open up to disgorge a "cheese" of wax that can be stacked out of the way until the end of the season, without drip.

BUILD THIS EQUIPMENT YOURSELF!

While priorities prevent our obtaining sufficient materials to manufacture this unit in quantity, sufficient materials can be obtained locally to make your own with the help of detailed plans and instructions for large and small operators which we will furnish to you for only \$2.00.

We have every confidence that these plans will more than meet with your approval. Anyone who might not be satisfied can have money refunded by returning the plans within two days.

USE THIS ORDER BLANK

R. D. BRADSHAW & SONS,
101 Avenue B, Wendell, Idaho

Date _____

I operate _____ colonies. Enclosed is \$2 check—money order—currency—for which send me postpaid one of your copyrighted plans for building the Bradshaw Demountable Uncapping Tub, Table, and Press, sufficient to handle my output.

Name _____

City and
State _____

Address _____



This revolutionary new method of handling cappings gives you many advantages:

- Cut labor costs. Experienced help not necessary. No shovelling of cappings.
- No waiting, no heat, no boiler when you uncap with electric knife into Bradshaw Demountable Tub.
- Absolutely no discoloration of honey or loss of flavor.
- Presses out up to 98½% pure honey from cappings.
- Correct spacing of staves permits rapid flow of honey without clogging or losing wax. Has toggle joint latches; no thumb screws to gum.
- Demountable feature permits easy removal of wax cake which can be stacked out of way until end of season.

**Mail the Coupon
TODAY!**

CROP AND MARKET REPORT

Compiled by M. G. DADANT

For our April Crop and Market Report, we asked reporters to answer the following questions.

1. How much honey left?
2. What is offered jobbing for honey now?
3. What is the retail on 10 lb. pails_____, on 5 lb. pails_____?
4. Condition of bees?
5. Much feeding in prospect?
6. Honey plant conditions?

Honey Left

It is the same story in practically all sections, no honey left, or very little on hand except what the packers are using to supply their demand and what may be held in the individual beekeeper's hands for taking care of his trade. There will be a negligible amount of honey carried over, if any at all.

Jobbing Offers

Jobbing offers are beginning to range somewhat upward and we learn of packers paying as high as 10 cents per pound for honey with a high range in carload lots probably from outside buyers running as high as 14 cents per pound. The lowest suggested by reporters is 7 cents to 8 cents in the Southeast with very little honey to buy. Most of the reported offers are along the line of about 10 cents, either cans furnished or cans returned. It does not look like a question of price, but a question of whether it is possible to supply, and probably this condition will remain until a ceiling is finally set on honey. There is no indication of this being done so far.

Retail Prices

Retail prices vary even more than the jobbing prices. There are reports of chain stores still selling out their old supply as low as 39 cents to 50 cents per pail, and many beekeepers holding to somewhere near their old figures of from 55 to 70 cents for a 5 pound pail.

Many, however, have advanced probably in view of the advance in a jobbing way or because of the necessity of purchasing honey to maintain their customers' demand. In such cases, the prices generally range about 75 cents for a 5 pound pail and \$1.40 for a 10 pound pail, with not much difference in range between the various sections of the country. The top prices are \$1.25 for a 5 pound pail and \$2.00 for a 10 pound.

Condition of Bees

The country over, the condition of bees is satisfactory, although, of course, in northern sections it was too early to make any estimate except that bees went into winter quarters in fairly satisfactory condition. In the southern states, including the package area, the bees are behind time owing to the backward weather, and it looks like there might be a repetition of last year in delay in getting bees to strength for packages unless warm weather arrived soon and remained. This covers the entire South. In California also, it is probable that bees

are not in quite average condition owing to rains and delay of the crop.

Will There Be Feeding?

Likely about normal conditions prevail as to the amount of honey that was left on the hives last fall. No stripping down on account of high priced honey at least. Many report no probability of feeding, but, of course, the weather conditions will entirely determine how much feeding there will be. The weather has been fairly mild and likely more stores have been used than in a more severe winter, as it has led to earlier and heavier breeding. For this reason, likely, more feeding will be necessary than a year ago, but just how much is undeterminable. Southern areas, of course, have had to feed and probably may have to feed more due to the difficult weather conditions unless there is a break and the plants which are there ready to bloom are allowed to yield and the bees to gather the honey. The same conditions prevail in California as in the South.

Honey Plant Conditions

In most areas, honey plants are perhaps about normal. They would be, we believe, in the southeastern and southern areas. New England is still deficient in moisture owing to the shortage of snowfall, and this condition extends into some parts of New York. Ohio and Indiana may be somewhat short in honey plants owing to the dry fall last year. However, in other sections of the central West, excluding Michigan where perhaps Indiana conditions prevail, the moisture has been very heavy and the little white clover seems in wonderful condition, in addition to the usual sweet clover and other plants. This extends into the plains area. In the intermountain areas conditions are at least normal with plenty of moisture except perhaps parts of Montana and Idaho.

The Pacific Northwest seems satisfactory but some sections of California, particularly the desert areas, are needing more rain badly to bring anything like a normal flora.

This report so far does not take into account the possibility of shortage of honey plants through the plowing under of the sweet clover and alfalfa for soybeans, sugar beets, etc. Undoubtedly there is much of this going to be done this spring and some anxiety on the part of the beekeepers who are dependent upon the sweet clover and alfalfa source. Most certainly there is not going to be the abundance of sweet clover of the usual year, but whether the planting will be sufficient to necessitate anything more than a careful rearrangement of apiaries to take advantage of what sweet clover is left, remains to be seen.

Most certain it is that those areas which are fortunate enough to be located in a diversified flora area will be more secure this year and this applies particularly to the white clover areas including the western section of the central states and the eastern plains where white clover conditions look excellent, and sweet clover, of course, is normal.

All in all, we would say conditions are normal with perhaps more feeding than usual, owing to the warm winter and the delay of spring. There is also the likelihood of much plowing under of sweet clover, and of planting of sugar beets and soybeans. But there is more than normal prospect in the white clover areas.

WANTED--Extracted Honey All Varieties
Send samples and delivered prices to
JEWETT & SHERMAN COMPANY
Cleveland, Kansas City and Brooklyn.

HONEY WANTED Cars and less than cars
Mail Samples
C. W. AEPPLER CO., Oconomowoc, Wisconsin

EXTRACTED HONEY Bought and Sold
Iverson Honey Company
201 North Wells St., Chicago
Reference: First National Bank of Chicago

THE MARKET PLACE

BEES AND QUEENS

ITALIAN QUEENS. Package Bees, Nuclei. Queens from stock bred for resistance, or the old line bred. Queens 70c; 2 lbs. bees \$2.45; 3 lbs. \$3.05, any amount. Take honey-wax as payment. Homer W. Richard, 1411 Champnolle, El Dorado, Ark.

THREE BANDED ITALIAN Bees and Queens. Extra good workers. 2 lb. package with queen \$2.45; 3 lb. with queen \$3.15. Select untested queens 75c each. Health certificate with every order. Alamance Bee Company, Geo. E. Curtis, Mgr., Graham, N. C.

AFTER MAY 1st, 100 3-fr. nuclei \$3.50 each; 100 2 lb. packages \$2.50 each. All with fine Caucasian queens. Chas. S. Engle, Beeville, Texas.

HIGH GRADE BEES in standard hives. Guaranteed no disease. Very reasonable. George Schilling, State Center Iowa.

GENUINE CAUCASIAN BEES—2 pound packages \$2.50; 3 pound packages \$3.00. Also Italians of quality stock at above prices. Oregon Bee Yards, Inc., Box 44, Woodburn, Oregon.

FOR SALE—Certified Italian queens, package bees from six hundred colonies. May, fifty cents per pound; June, forty. New crop Gallberry tupelo chunk comb, extracted. Tomato plants two dollars thousand. A. V. Dowling, Valdosta, Georgia.

PACKAGE BEES AND QUEENS—Pure Italian. Prompt shipment, low prices and honest dealings. CRENSHAW COUNTY APIARIES, RUTLEDGE, ALA.

CAUCASIAN PACKAGE BEES. High quality, long-tongued, gentle, prolific, dependable workers. 2-pound package bees with queen \$2.50; 3-pound package bees with queen \$3.20. Write for prices for large orders. Safe arrival and satisfaction guaranteed. Skinner Bee Co., Rt. 1, Greenville, Ala.

THREE-BANDED Italian Queens. Write for 1942 prices. Geo. H. Williams, Reidsville, North Carolina.

GOLDENS, yellow to tip, untested 75c. Booking orders for May 10th. Pure mating and satisfaction guaranteed. H. G. Karns, Dumbarton, Va.

CAUCASIAN BEES and QUEENS. 2-lb. pkg. \$2.25; 3-lb. pkg. \$2.75. Untested queen 75c each. Write for price on quantity lots. Lewis & Tillery Bee Co., Greenville, Ala.

PACKAGES AND QUEENS—Our hustler strain, 3-band Italians get the honey. 2-lb. package with queen \$2.50; 3-lb. package \$3.20. You will be pleased with the weight, quality and service that we give you. Caney Valley Apiaries, Bay City, Texas.

CARNIOLAN and CAUCASIAN Bees and Queens. 2-lb. pkg. \$2.25; 3-lb. pkg. \$2.75. Untested queens 60c each. Write for price on quantity lots. Tillery Brothers, Greenville, Ala.

CAUCASIAN BREEDERS ONLY—Laying queens 75c; tested \$2.00. 2-lb. pkg. and queen \$2.30; 3-lb. \$3.00. Miller Bros. Rt. 1, Three Rivers, Texas.

PACKAGE BEES WITH QUEEN INTRODUCED—Really introduced, not just a loose queen. This guarantees against loss of queen. Free folder tells how and why these packages are superior. Best stock young Italian queens. A. O. Smith, Mount Vernon, Indiana.

TRY Green's Package Bees and Queens. The quality is much higher than the price. Start shipping about March the first. D. P. Green, Deland, Florida.

Copy for this department must reach us not later than the fifteenth of each month preceding date of issue. If intended for classified department, it should be so stated when advertisement is sent.

Rates of advertising in this classified department are seven cents per word, including name and address. Minimum ad, ten words.

As a measure of precaution to our readers we require reference of all new advertisers. To save time, please send the name of your bank and other reference with your copy.

Advertisers offering used equipment or bees on combs must guarantee them free from disease, or state exact condition, or furnish certificate of inspection from authorized inspectors. Conditions should be stated to insure that buyer is fully informed.

HONEY FOR SALE

SEVERAL TONS alsike and white clover honey. Oakdale Apiaries, Rush City, Minn.

HONEY FOR SALE—We buy and sell all kinds, carloads and less. The John G. Paton Company, Inc. 630 Fifth Avenue, New York, N. Y.

FANCY WHITE COMB \$4; No. 1, \$3.50 per case of 24 sections, six case carrier; 24 or more cases, 25c per case less. H. G. Quirin, Bellevue, Ohio.

WILL have more Tupelo Honey May twentieth. Marks Tupelo Honey Co., Apalachicola, Florida.

NEW YORK STATE Clover; amber and buckwheat comb honey. C. B. Howard, Geneva, NEW YORK.

WE BUY and sell any quantity, all varieties. B-Z-B Honey Company, Alhambra, California.

HONEY PACKERS—Write us for prices on carload lots of California and Western Honey. We stock all varieties. HAMILTON & Company, 1360 Produce Street, Los Angeles, California.

COMPLETE LINE comb and bottled honey. Pure clover. Also packed in 5's and 60's. Central Ohio Apiaries, Inc., Millersport, Ohio.

CHOICE Michigan Clover Honey. New 60's. David Running, Filion, Michigan.

FOR SALE—Northern white extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

HONEY FOR SALE—All kinds, any quantity. H. & S. Honey and Wax Company, Inc., 265-267 Greenwich Street, New York.

HONEY AND BEESWAX WANTED

WANTED—Honey and Beeswax. Mail samples, state quantity and price. Bryant & Cookinham, Los Angeles, Calif.

WANTED—Light extracted honey. Quote price. Send sample and mention whether cans new or used. J. Wolosevich, 6315 So. Damen Ave., Chicago, Ill.

WANTED—Honey for storage. We operate Federally licensed warehouse and issue negotiable receipt in exchange for your honey. Low storage rates. Write for particulars. Hamilton & Company, 1360 Produce St., Los Angeles, Calif.

WANTED—Extracted honey in ton lots or more. Send sample and quote price delivered here. C. J. Morrison, 1235 Lincoln Way West, South Bend, Ind.

CASH FOR YOUR WAX the day received. Write for quotations and shipping tags. Walter T. Kelley Co., Paducah, Kentucky.

WANTED—Large quantities of chunk comb in shallow frames; also section honey. Central Ohio Apiaries, Inc., Millersport, Ohio.

ALL GRADES extracted honey wanted. Bee supplies and honey containers for sale. Prairie View Honey Co., 12243 12th Street, Detroit, Michigan.

WANTED

WANTED—1000 hives on shares, located in sweet clover region. Box 10, care American Bee Journal.

WANTED—Bees to work on shares. Experienced beeman. F. H. Inman, Union City, Pa.

WANTED—Bees and equipment. M. Stanius, Hinsdale, Ill.

WANTED—Bees, Northern Illinois. Room 512, Saratoga Hotel, Chicago, Ill.

WANTED—One thousand ten frame standard bodies with combs; also would consider whole bee outfits. Walter Roose, Sac City, Iowa.

FOR SALE

40 colonies bees, ten frame hives. Guaranteed no disease. Price \$4.00 each. Reason, steady employment. Leslie Scott, Collinsville, Okla.

FOR SALE—200 ten frame used shallow supers with fixtures. Good as new. Also one honey pump. Wendell Peterson, Ashkum, Illinois.

FOR SALE—30 colonies bees, 10-frame hives some comb honey supers. No disease. E. Adams, Earlville, Illinois.

COMB HONEY shipping cases with 2 inch glass. Bargain price. Write C. H. Phillips, LeClaire, Iowa.

2 Frame reversible extractor, 12 in. baskets, for motor drive, \$15.00. W. Ames, Deerfield, Wisconsin.

FOR SALE—700 pounds of Dadant's medium brood wire foundation with hooks, all new this year. Will sell at 70 cents per lb., on account of draft. Roland Harnick, Shepherd, Michigan.

One 4-frame automatic reversible Root extractor. One 2-frame reversible Root extractor. L. W. Maxwell, 3320 Airport Way, Seattle, Wash.

FOR SALE—We are constantly accumulating bee supplies slightly shopworn; odd sized, surpluses, etc., which we desire to dispose of and on which we can quote you bargain prices. Write for complete list of our bargain material. We can save you money on items you may desire from it. Dadant & Sons, Hamilton, Illinois.

200 COLONIES of bees for sale. If interested write Bryant Apiaries, Runge, Texas.

FOR SALE—We accumulate bee supplies at our warehouses, slightly shopworn and fully serviceable, but discontinued for lack of sale. Write for complete bargain list. G. B. Lewis Company, Watertown, Wisconsin.

FOR SALE—450 colonies bees in 10-frame hives, located in Sumter County, Alabama. Equipped for queen and package business. With or without real estate. DAVID RUNNING, FILION, MICH.

FOR SALE—Fifteen acres land, 9 lots, 7 room modern home, honey house, 400 colonies bees with complete extracting equipment. Ernest W. Fox, Fruitdale, S. Dak.

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YOUR WAX WORKED into high quality medium brood foundation 15c pound; 100 lbs. \$12.00. Thin super 22c. Fred Peterson, Alden, Iowa.

LEWIS BEE SUPPLIES, Dadant's Crimp Wired Foundation. Prompt shipment from large stock. Simeon B. Beller, Authorized Distributor, Intercourse, Pa.

PINARD'S nailless queen cage. Agents—Diamond Match Co., Chico and Los Angeles, California; Weaver Apiaries, Navaota, Texas. Pinard manufacturer, 810 Auverais Ave., San Jose, California.

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PORTER BEE ESCAPES are fast, reliable, labor savers. R. & E. C. Porter, Lewistown, Illinois.

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WANTED—Help for season. Write full particulars and wages expected. Edw. Klein, Gurnee, Illinois.

WANTED—By about May 5th, experienced beekeeper for this season. State experience and salary wanted. Room and board furnished. Located near Milwaukee. John Kneser, Route 1, Hales Corners, Wis.

WANTED—Helper for Minnesota apiaries. Give full description and wages expected. E. E. Salge, Weslaco, Texas.

WANTED—Experienced man, also helper from May to December. No bad habits. Give wages expected without board. Sunnybrook Apiaries, Crookston, Minn.

WANTED—Single experienced young man for steady work with bees. State wages expected with room and board. Al Winn, Rt. 2, Box 161, Petaluma, California.

SEEDS

7 BASSWOOD seedlings—2-foot or 10 12-in. or 6 PINK HONEYSUCKLE shrubs, or 8 JAPANESE BARBERRY, or 20 CARAGNA (hedging)—1 foot, or 3 transplanted PUSSY-WILLOW (early spring pollen), 3-foot—nectar producers, each group postpaid for \$1.00 bill. Checks require 10c exchange. Local Lewis-Dadant Dealer, Nicollet County Nursery, St. Peter, Minnesota.

MISCELLANEOUS

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Queens75 each

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With our "PROGENY-TEST" stock. Poor stock will not answer the call for increased production to meet our country's needs. Let us supply you with "BRED IN" quality stock at popular prices.

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Add 10 cents per package or queen for stock bred for resistance. No deposit for booking orders. Write for circular.

	Queens	2-lb. Pkg.	3-lb. Pkg.
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25-50	.70c	2.35	3.00
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Check these SUPERIOR qualities that make the difference between profit and loss.

1. They are industrious, working when many other strains are idle.
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3. Are conservative, keeping their brood well arranged with a nice ring of honey close by, in the fall contracting the brood, and storing honey and pollen in the brood chamber.
4. They are gentle needing very little smoke to handle them.

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3-lb. package with queen.....2.85 each

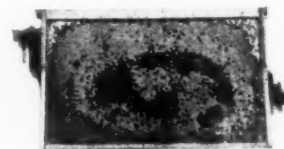
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Prices Include Queens

	Queens	2-Lb. Combless	2-Lb. on Standard Comb Brood	2-Lb. on Dadant Modified Comb Brood
1-24.....	\$.75	\$2.45	\$2.75	\$3.00
25-49.....	.70	2.25	2.60	2.95
50 or more..	.65	2.05	2.50	2.85

Additional pound bees \$.55

Additional Comb Brood \$.85

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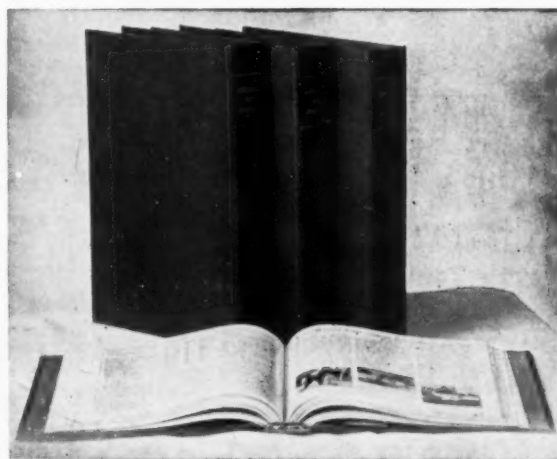
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25- 99	----- .70	2.35	3.00	3.60	4.15
100-499	----- .65	2.20	2.80	3.35	3.85
500 Up	----- .60	2.00	2.55	3.05	3.50

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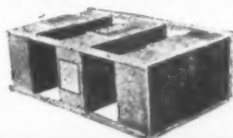
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3rd YEAR'S Breeding Daughters from Stock Bred for Resistance to A. F. B.

NOTE: We wish to announce that we are fully booked for April delivery, except for queens.

Send us your orders for MAY
and later deliveries.

Health Certificates on all packages. Circular upon request.

	Prices for Both Strains	2-Lb. with queen	3-Lb. with queen	Queens
1- 10	-----	\$2.45	\$3.15	\$.75
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51-100	-----	2.20	2.80	.65
101-500	-----	2.15	2.75	.60

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THE POSTSCRIPT

From England comes a suggestion that some good things are coming as a result of war. To quote: "Many of us are gaining experience in the art of living, and gaining too, a sense of strength and independence and a very deep appreciation and understanding of the earth and what it will yield to those who work it. Our food horizon will be widened and the rising generation will benefit thereby, but there is another gain; a certain strength, a healing power, an unnamable solace comes to those who work among the flowers and plants, who till the soil, and for war weary nerves I know of no other remedy of cure so sure and so potent."

Only a few days ago I heard a very able lawyer express the conviction that we must, as a nation, get back to contact with the soil before there can be any stability for our economic system. Every man needs some activity to take him into the open air for normal exercise and the feeling of independence that comes with the production of a part of his food supply. Whether he keeps bees, cultivates a garden, raises chickens or keeps goats, it is all the same in personal benefit. Families or nations do not long survive when permanently divorced from contact with the soil.

Roy Littlefield, of Exira, Iowa, is one of the few large scale honey producers who never has to buy sugar for feeding. He uses a deep brood frame and at all times carries a shallow food chamber over an excluder. By this means he always has ample stores for the bees without feeding. Littlefield produces from 100,000 to 200,000 pounds of honey annually. His methods were described at length in the November, 1940, number of this magazine.

An interesting note regarding the dandelion cultivated as a source of rubber in Russia, comes from Dr. N. E. Hansen who has made several trips to that country as a plant explorer. Beginning with plants yielding two per cent of rubber the content has been increased to as high as twenty per cent by selection. Dr. Hansen writes that great work has been done in horticulture in Russia in recent years. When the war is over it is to be hoped that this rubber producing dandelion may be secured for trial in this country also. However, we already have several native plants which yield as much as the two per cent of rubber with which the Russians started. Perhaps by the same careful selection the amount might be increased correspondingly with plants we have already.

George L. Abeler, of Saint Paul, Minnesota, writes that honey from wild cucumber is said to be greenish in color, and wonders whether others can verify that report. This could hardly be the source of the honey mentioned in the February Postscript since that was harvested in early spring while wild cucumber blooms in summer.

From India comes the story of Tapsi Baba, an herb practitioner, who is reputed to be 172 years old and who seems to possess the real secret of youth. His elderly patients are said to be placed in entire darkness for a long period and fed a diet of black cows' milk. In addition they are given twice daily six ounces of a rejuvenating medicine composed of two ounces of amalaki (an herb), two ounces of butter and two ounces of honey. Pundit Malaviya, vice chancellor of the University at Benares at 77 is reported to have increased his weight, improved his eyesight, darkened his hair, restored his voice and memory by this treatment. Maybe, after all, there is something in the contention that honey has some medicinal value.

Enthusiastic reports, from beekeepers who have tried the yellow spider flower or golden cleome, (*Cleome lutea*), continues to come in. One man writes that it sounded like a swarm whenever he came near the cleome when in flower. Favorable reports have come from as far north as Wisconsin, although the season is too short there for it to reach its maximum of bloom.

Sainfoin apparently has succeeded in many places and there is hope that it may be grown as a farm crop and thus add a substantial honeyflow ahead of the present summer sources. Since the main flow from sainfoin comes in May and June it is over before sweet clover comes on. Unfortunately it is impossible to secure more than a very few pounds of seed at the present time due to the war which cuts off importations from Europe.

In Varro's Book on Farming which has come down to us from ancient times may be found many interesting comments on bees. This book, which was written before the birth of Christ, records that doctors used propolis for making plasters and for this reason it sold for more than honey. Even in modern times doctors have used propolis as a remedy for diarrhoea and it has been recognized in the United States Dispensatory until recent editions.

To those who are asking for information concerning the market for medicinal plants, we suggest that they send for "American Medicinal Plants of Commercial Importance" for sale by Superintendent of Documents at Washington, D. C., for thirty cents per copy. It is Miscellaneous Publication No. 77 of the United States Department of Agriculture. It gives pictures of 128 plants in demand together with information about parts used and extent of market.

An English beekeeper writes that in that country during a period of heavy honeyflow the rate of gain is eight to ten pounds per day. It is interesting to compare the daily gain from different sources and in varying locations. Few plants equal sweet clover in the Missouri River Valley in its rate of yield. Fifteen or more pounds daily is a common event and occasionally twenty to twenty-five pounds of gain in a single day is recorded. When such a flow extends over a long period the total yield is very heavy and colonies with 300 pounds and upward are common.

The greater part of the surplus harvested by our friend in England comes from white Dutch clover. A yield of eight to ten pounds from that plant would be regarded as heavy with us. In fact the records kept by the late J. L. Strong, at Clarinda, Iowa, for a long period of years, indicate that eight pounds per day is unusual from white Dutch clover. Over a period of 24 days in June and July 1903 he recorded an average gain of slightly more than eight pounds, the highest for a similar period in the 27 years over which his record extended. During a shorter time in 1910 there was an average of nine pounds.

The month of April takes us back to the experimental apiary and the honey plant test garden. It is the plan to carry on a careful selection of breeding stock tested for disease resistance in an effort to secure non-swarmling, gentleness and heavy honey production in a strain of bees of proved value. Seed of many new plants has been secured for the test garden although the war makes it impossible to secure many desirable things from abroad.

FRANK C. PELLETT.



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